



Department of Energy
Carlsbad Field Office
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MAY 13 2003

ENTERED



Mr. Steve Zappe, Project Leader (WIPP)
Hazardous Waste Permits Program
Hazardous Waste Bureau
New Mexico Environment Department
2905 E. Rodeo Park Drive, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Request for Permit Modification to the Hazardous Waste Facility Permit,
Permit Number NM4890139088-TSDF, Construction and Use of Hazardous
Waste Disposal Units

Dear Mr. Zappe:

The purpose of this letter is to submit a request for a Class 3 permit modification to the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), Number: NM4890139088-TSDF. This request is being submitted by the U. S. Department of Energy, Carlsbad Field Office and the Washington TRU Solutions LLC pursuant to 20 New Mexico Administrative Code (NMAC) 4.1.900 (incorporating Title 40 Code of Federal Regulations §§270.41 and 270.42). The proposed change does not compromise worker safety, human health, or the environment. This modification, if approved, would allow the mining and use of additional panels in the WIPP repository.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

If you have any questions regarding this modification, please contact Mr. Jody Plum at (505) 234-7462.

Sincerely,

Dr. Inés R. Triay, Manager
Carlsbad Field Office

S.D. Warren, General Manager
Washington TRU Solutions LLC

Enclosure



Mr. Steve Zappe

-2-

MAY 13 2003

cc: w/o enclosure

J. Bearzi, NMED

J. Kieling, NMED

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-3-

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Class 3 Permit Modification Request

Construction and Use of Hazardous Waste Disposal Units

**Waste Isolation Pilot Plant
Carlsbad, New Mexico**

WIPP HWFP #NM4890139088

5/12/03 6

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Acronyms and Abbreviations

BSS	Baseline Shipping Schedule
CH	Contact Handled
CBFO	Carlsbad Field Office
CCB	Configuration Control Board
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
EM-1	Office of Environmental Management
HWDU	Hazardous Waste Disposal Unit
HWFP	Hazardous Waste Facility Permit
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NOD	Notice of Deficiency
RH	Remote Handled
PMP	Transuranic Waste Performance Management Plan
PMR	Permit Modification Request
RCRA	Resource Conservation and Recovery Act
SWB	Standard Waste Box
TRU	Transuranic
TRUPACT III	Transuranic Package Transporter
TSDF	Treatment, Storage and Disposal Facility
WIPP	Waste Isolation Pilot Plant
WTS	Washington TRU Solutions, LLC
HALFPACT	Half Sized Transuranic Package Transporter

Overview of the Permit Modification Request

This document contains a Class 3 Permit Modification Request (PMR) for the Hazardous Waste Facility Permit (HWFP) of the Waste Isolation Pilot Plant (WIPP), Permit Number NM4890139088-TSDF, hereinafter referred to as the WIPP HWFP.

This PMR is being submitted by the U.S. Department of Energy (DOE), Carlsbad Field Office (CBFO), and Washington TRU Solutions, LLC (WTS), collectively referred to as the Permittees, in accordance with the WIPP HWFP, Condition I.B.1 (20.4.1.900 New Mexico Administrative Code (NMAC) incorporating Title 40 Code of Federal Regulations (CFR) §270.42). This PMR seeks to change the HWFP to: a) allow construction of Hazardous Waste Disposal Units (HWDUs) known as Panels 5, 6, 7, and 8 during the current term of the HWFP; and b) allow use of HWDUs known as Panels 4, 5, 6, and 7 for disposal of TRU waste during the current term of the HWFP. These changes do not reduce the ability of the Permittees to provide continued protection to human health and the environment.

The proposed modifications to the text of the WIPP HWFP have been identified using a double underline and a revision bar in the right hand margin for added information, and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by italicized text. The following information specifically addresses how compliance has been achieved with the WIPP HWFP requirement, Permit Condition I.B.1 for submission of this Class 3 PMR.

1. **20.4.1.900 NMAC (incorporating 40 CFR §270.42), requires the applicant to describe the exact change to be made to the permit conditions and supporting documents referenced by the permit.**

Specifically, this PMR seeks to modify language in Sections IV.A.1 and IV.E.2 of Module IV, as well as Attachments A, I, M2, N, and O of the WIPP HWFP. A brief description of the proposed changes to each HWFP section is provided in Table 1 of Attachment A to this PMR. The exact wording of the proposed changes to the WIPP HWFP is included in Item 1, Section 11 of this PMR.

2. **20.4.1.900 NMAC (incorporating 40 CFR §270.42), requires the applicant to identify that the modification is a Class 3 modification.**

This PMR is classified as a Class 3 in accordance with 40 CFR §270.42(d)(1). This PMR seeks to allow the Permittees to construct and use more HWDUs during the current term of the HWFP because of an increase in the quantity of waste to be managed under the HWFP during the current term of the permit. This PMR does not change the design capacity (175,600 m³) of the WIPP.

3. **20.4.1.900 NMAC (incorporating 40 CFR §270.42), requires the applicant to explain why the modification is needed.**

The WIPP is seeking to modify the HWFP because: a) the rate at which generators are shipping waste to the WIPP has risen since the facility opened; and, b) forecasted shipment rates for both the near term and long term show that the WIPP will use its design capacity at a faster rate than originally estimated in the 1996 RCRA Permit Application. Accordingly, HWDUs known as Panels 5, 6, 7, and 8 will need to be constructed during the remainder of the ten-year term of the current HWFP, and HWDUs known as Panels 4, 5, 6, and 7, will be needed for TRU waste

disposal during the remainder of the ten-year term of the current HWFP. Attachment A to this PMR includes a detailed explanation of why the WIPP is seeking these changes to the HWFP.

4. **20.4.1.900 NMAC (incorporating 40 CFR §270.42), requires the applicant to provide the applicable information required by 40 CFR §§270.13 through 270.21, 270.62 and 270.63.**

The regulatory crosswalk describes those portions of the WIPP HWFP that are affected by this PMR. Where applicable, regulatory citations in this modification reference Title 20, Chapter 4, Part 1, NMAC, revised June 14, 2000, incorporating 40 CFR Parts 264 and 270. 40 CFR §§270.16 through 270.22, 270.62, 270.63 and 270.66 are not applicable to the WIPP. Consequently, they are not listed in the regulatory crosswalk table. 40 CFR §270.23 is applicable to the WIPP HWDUs.

5. **20.4.1.900 NMAC (incorporating 40 CFR §270.11(d)(1) and 40 CFR §270.30(k)), requires any person signing under paragraph a and b must certify the document in accordance with 20.4.1.900 NMAC.**

The transmittal letter for this PMR contains the signed certification statement in accordance with Module I.F of the WIPP HWFP.

Regulatory Crosswalk

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the HWFP or Permit Application	Yes	No
§270.13		Contents of Part A permit application	Attachment O, Part A	✓	
§270.14(b)(1)		General facility description	Attachment A	✓	
§270.14(b)(2)	§264.13(a)	Chemical and physical analyses	Attachment B		✓
§270.14(b)(3)	§264.13(b)	Development and implementation of waste analysis plan	Attachment B		✓
	§264.13(c)	Off-site waste analysis requirements	Attachment B		✓
§270.14(b)(4)	§264.14(a-c)	Security procedures and equipment	Attachment C		✓
§270.14(b)(5)	§264.15(a-d)	General inspection requirements	Attachment D		✓
	§264.174	Container inspections	Attachment D		✓
§270.23(a)(2)	§264.602	Miscellaneous units inspections	Attachment D		✓
§270.14(b)(6)		Request for waiver from preparedness and prevention requirements of Part 264 Subpart C	NA		
§270.14(b)(7)	264 Subpart D	Contingency plan requirements	Attachment F		✓
	§264.51	Contingency plan design and implementation	Attachment F		✓
	§264.52 (a) & (c-f)	Contingency plan content	Attachment F		✓
	§264.53	Contingency plan copies	Attachment F		✓
	§264.54	Contingency plan amendment	Attachment F		✓
	§264.55	Emergency coordinator	Attachment F		✓
	§264.56	Emergency procedures	Attachment F		✓
§270.14(b)(8)		Description of procedures, structures or equipment for:	Attachment E		✓
§270.14(b)(8) (i)		Prevention of hazards in unloading operations (e.g., ramps and special forklifts)	Attachment E		✓
§270.14(b)(8) (ii)		Runoff or flood prevention (e.g., berms, trenches, and dikes)	Attachment E		✓
§270.14(b)(8) (iii)		Prevention of contamination of water supplies	Attachment E		✓
§270.14(b)(8) (iv)		Mitigation of effects of equipment failure and power outages	Attachment E		✓
§270.14(b)(8) (v)		Prevention of undue exposure of personnel (e.g., personal protective equipment)	Attachment E		✓
§270.14(b)(8) (vi) §270.23(a)(2)	§264.601	Prevention of releases to the atmosphere	Module II Module IV Attachment M2 Attachment N		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the HWFP or Permit Application	Yes	No
	264 Subpart C	Preparedness and prevention	Attachment E		✓
	§264.31	Design and operation of facility	Attachment E		✓
	§264.32	Required equipment	Attachment E Attachment F		✓
	§264.33	Testing and maintenance of equipment	Attachment D		✓
	§264.34	Access to communication/alarm system	Attachment E		✓
	§264.35	Required aisle space	Attachment E		✓
	§264.37	Arrangements with local authorities	Attachment F		✓
§270.14(b)(9)	§264.17(a-c)	Prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes	Attachment E		✓
§270.14(b) (10)		Traffic pattern, volume, and controls, for example: Identification of turn lanes Identification of traffic/stacking lanes, if appropriate Description of access road surface Description of access road load- bearing capacity Identification of traffic controls	Attachment G		✓
§270.14(b) (11)(i) and (ii)	§264.18(a)	Seismic standard applicability and requirements	Part B, Rev. 6 Chapter B		✓
§270.14(b) (11)(iii-v)	§264.18(b)	100-year floodplain standard	Part B, Rev. 6 Chapter B		✓
	§264.18(c)	Other location standards	Part B, Rev. 6 Chapter B		✓
§270.14(b) (12)	§264.16(a-e)	Personnel training program	Attachment H		✓
§270.14(b) (13)	264 Subpart G	Closure and post-closure plans	Attachment I & J	✓	
§270.14(b)(13)	§264.111	Closure performance standard	Attachment I		✓
§270.14(b)(13)	§264.112(a) (b)	Written content of closure plan	Attachment I	✓	
§270.14(b)(13)	§264.112(c)	Amendment of closure plan	Attachment I		✓
§270.14(b)(13)	§264.112(d)	Notification of partial and final closure	Attachment I		✓

Regulatory Citation(s) 20.4.1.900 NMAC (Incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (Incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the HWFP or Permit Application	Yes	No
§270.14(b)(13)	§264.112(e)	Removal of wastes and decontamination/dismantling of equipment	Attachment I		✓
§270.14(b)(13)	§264.113	Time allowed for closure	Attachment I		✓
§270.14(b)(13)	§264.114	Disposal/decontamination	Attachment I		✓
§270.14(b)(13)	§264.115	Certification of closure	Attachment I		✓
§270.14(b)(13)	§264.116	Survey plat	Attachment I		✓
§270.14(b)(13)	§264.117	Post-closure care and use of property	Attachment J		✓
§270.14(b)(13)	§264.118	Post-closure plan; amendment of plan	Attachment J		✓
§270.14(b)(13)	§264.178	Closure/containers	Attachment I		✓
§270.14(b)(13)	§264.601	Environmental performance standards-Miscellaneous units	Attachment I		✓
§270.14(b)(13)	§264.603	Post-closure care	Attachment I		✓
§270.14(b) (14)	§264.119	Post-closure notices	Attachment J		✓
§270.14(b)(15)	§264.142	Closure cost estimate	NA		✓
	§264.143	Financial assurance	NA		✓
§270.14(b) (16)	§264.144	Post-closure cost estimate	NA		✓
	§264.145	Post-closure care financial assurance	NA		✓
§270.14(b) (17)	§264.147	Liability insurance	NA		✓
§270.14(b) (18)	§264.149-150	Proof of financial coverage	NA		✓
§270.14(b) (19)(i), (vi), (vii), and (x)		Topographic map requirements, Map scale and date, Map orientation, Legal boundaries, Buildings Treatment, storage, and disposal operations, Run-on/run-off control systems, Fire control facilities	Attachment O Part A Part B, Rev. 6 Chapter B, E		✓
§270.14(b) (19)(ii)	§264.18(b)	100-year floodplain	Attachment O Part A Part B, Rev. 6 Chapter B, E		✓
§270.14(b) (19)(iii)		Surface waters	Attachment O Part A Part B, Rev. 6 Chapter B, E		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the HWFP or Permit Application	Yes	No
§270.14(b) (19)(iv)		Surrounding land use	Attachment O Part A Part B, Rev. 6 Chapter B, E		✓
§270.14(b) (19)(v)		Wind rose	Attachment O Part A Part B, Rev. 6 Chapter B, E		✓
§270.14(b) (19)(viii)	§264.14(b)	Access controls	Attachment O Part A Part B, Rev. 6 Chapter B, E, F		✓
§270.14(b) (19)(ix)		Injection and withdrawal wells	Attachment O Part A Part B, Rev. 6 Chapter B, E, F		✓
§270.14(b) (19)(xi)		Drainage on flood control barriers	Part B, Rev. 6 Chapter B, E, F		✓
§270.14(b) (19)(xii)		Location of operational units	Part B, Rev. 6 Chapter B		✓
§270.14(b) (20)		Other federal laws Wild and Scenic Rivers Act National Historic Preservation Act Endangered Species Act Coastal Zone Management Act Fish and Wildlife Coordination Act Executive Orders	Part B, Rev. 6 Chapter K		✓
§270.15	§264 Subpart I	Containers	Attachment M1		✓
	§264.171	Condition of containers	Attachment M1		✓
	§264.172	Compatibility of waste with containers	Attachment M1		✓
	§264.173	Management of containers	Attachment M1		✓
	§264.174	Inspections	Attachment D Attachment M1		✓
§270.15(a)	§264.175	Containment systems	Attachment M1		✓
§270.15(c)	§264.176	Special requirements for ignitable or reactive waste	Attachment E Permit Module II		✓
§270.15(d)	§264.177	Special requirements for incompatible wastes	Attachment E Permit Module II		✓
	§264.178	Closure	Attachment I		✓
§270.15(e)	§264.179	Air emission standards	Attachment E Attachment N		✓
§270.23	264 Subpart X	Miscellaneous units	Module IV, Attachment M2	✓	
§270.23(a)	§264.601	Detailed unit description	Module, IV, Attachment M2	✓	
§270.23(b)	§264.601	Hydrologic, geologic, and meteorologic assessments	Permit Module IV Attachment M2		✓
§270.23(c)	§264.601	Potential exposure pathways	Permit Module IV Attachment M2 Attachment N		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the HWFP or Permit Application	Yes	No
§270.23(d)		Demonstration of treatment effectiveness	Permit Module IV Attachment M2 Attachment N		✓
	§264.602	Monitoring, analysis, inspection, response, reporting, and corrective action	Permit Module IV Attachment M2 Attachment N		✓
	§264.603	Post-closure care	Attachment J Attachment J1		✓
	264 Subpart E	Manifest system, record keeping, and reporting	Permit Module I Permit Module II Permit Module IV Attachment B		✓

Attachment A

Description of the Class 3 Permit Modification Request

Table 1. Class 3 Hazardous Waste Facility Permit Modification

Affected Permit Section	Explanation of Changes
a.1. IV.A.1.b	Change to revise the total number of HWDUs to be used for disposal of TRU waste during the current term of the HWFP from three to seven.
a.2. Table IV.A.1	Change to add descriptions of Panels 4, 5, 6, and 7 to the table identifying the underground HWDUs thereby allowing the use of these HWDUs. Change also removes the totals, which is necessary to clarify that the repository is designed for and limited by the Part A Permit Application and the Land Withdrawal Act to 175,600 m ³ of TRU waste.
a.3. IV.E.2	Change to allow the construction of eight HWDUs (Panels), plus disposal area access drifts known as Panels 9 and 10.
b.1. A-4	Change to revise the total number of HWDUs to be used for disposal of TRU waste during the current term of the HWFP from three to seven.
c.1. I-1c	Change to allow the construction of Panels 5, 6, 7, and 8, and the disposal of TRU waste in Panels 1, 2, 3, 4, 5, 6, and 7.
c.2. I-1d(1)	Change to remove assumptions on TRU waste receipt and emplacement rates which are increasing.
c.3. Table I-1	Change to revise the Anticipated Earliest Closure Dates for the underground HWDUs to reflect current waste receipt rates, shipping schedules, and shipping forecasts. Change to "NOTE 1" to allow the use of Panels 1 through 7 for disposal of TRU waste during the current term of the HWFP.
d.1. M2-1	Change to allow the construction of Panels 5, 6, 7, and 8, and to allow TRU waste disposal in Panels 4, 5, 6, and 7.
d.2. M2-2a(3)	Change to allow the construction of Panels 5, 6, 7, and 8, and to allow TRU waste disposal in Panels 4, 5, 6, and 7.
d.3. M2-2b	Change to revise the total number of HWDUs to be used for disposal of TRU waste during the current term of the HWFP from three to seven. Change to remove assumptions on TRU waste receipt and emplacement rates which are increasing.
d.4. M2-5b(2)(a)	Change to identify the geomechanical monitoring instrumentation for the HWDUs to be used during the current term of the HWFP.
e.1. N-1a	Change to revise the total number of HWDUs to be used for disposal of TRU waste during the current term of the HWFP from three to seven.
e.2. N-3a	Change to revise the total number of HWDUs to be used for disposal of TRU waste during the current term of the HWFP from three to seven.
f.1. O	Change to revise the Part A Permit Application to reflect use of HWDUs known as Panels 1 to 7 and construction of Panels 1 to 10, and to change the amount of CH TRU waste estimated to be disposed of during the ten-year term of the current HWFP.

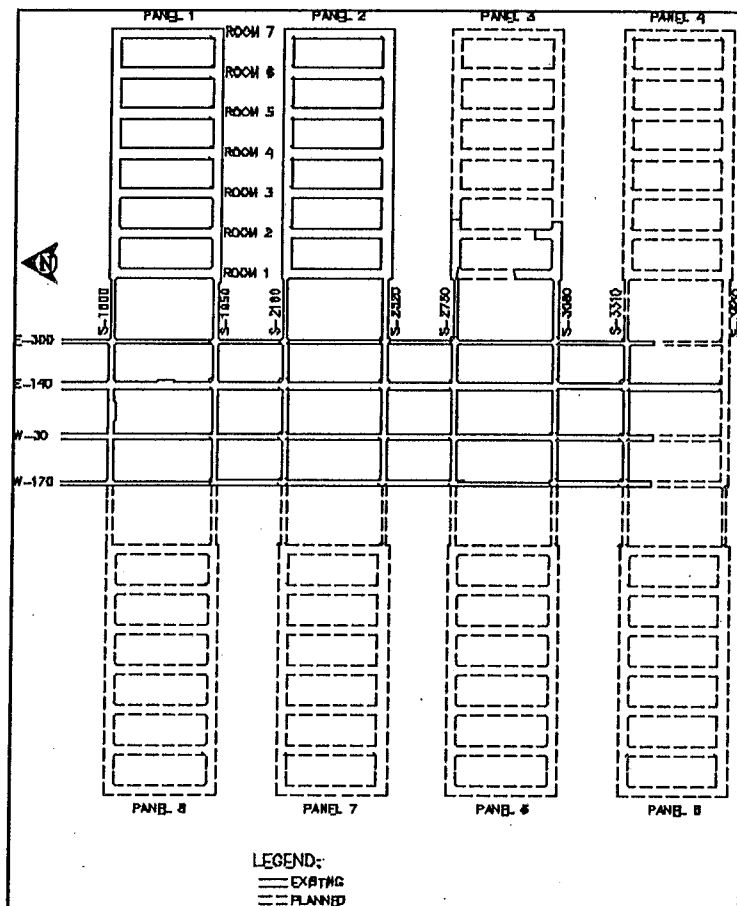
Item 1

1.0 Introduction

1.1 Why is the WIPP Requesting this Permit Modification?

WIPP is an underground geologic repository comprised of eight Hazardous Waste Disposal Units (HWDUs - also known as panels), with an overall process design capacity of 175,600 m³ of transuranic (TRU) and mixed TRU waste - see Figure 1 below.

Figure 1, Repository Horizon and HWDUs



(adapted from Figure M2-1 in HWFP Attachment M2,
not to scale, for illustration purposes only)

Module IV of the WIPP Hazardous Waste Facility Permit (HWFP) describes a maximum quantity of waste that can be disposed of in Panels 1 through 3 during the current ten-year term of the permit. This quantity was based upon DOE shipping estimates from the mid-1990s when the WIPP was developing its Resource Conservation and Recovery Act (RCRA) Permit Application.

Specifically, Module IV of the HWFP specifies that a maximum of 54,000 m³ of TRU mixed waste are to be disposed of in Panels 1, 2, and 3, and that only panels 2, 3, 4, and disposal area access drifts¹ are to be mined and constructed during the ten-year term of the current HWFP.

The rate at which generator sites are shipping waste to the WIPP has increased from the date the facility first received waste in 1999 to the present day. Likewise, current DOE waste shipping schedules and forecasts show a continued increase in the rate of waste shipments to the WIPP. As described in more detail below, this historical experience, and the shipping schedules and forecasts show that the WIPP will need to construct and use more HWDUs during the current term of the HWFP.

1.2 Classification of this Permit Modification Request

In accordance with 40 CFR §270.42(d)(1), this PMR is classified as a Class 3². This PMR seeks to allow the Permittees to construct and use more HWDUs during the current term of the HWFP because of an increase in the quantity of waste to be managed under the HWFP. This PMR does not change the design capacity (175,600 m³) of the WIPP.

2.0 Background Information

2.1 The RCRA Permit Application and the Process Design Capacity of the WIPP

WIPP submitted Revision 6 of the facility's RCRA Permit Application in 1996 seeking approval for a process design capacity of 175,600 m³ in ten discrete hazardous waste management units³. At the time, it was believed that a maximum of about 54,000 m³ of TRU waste would be disposed of in Panels 1, 2, and 3 during the initial ten-year term of the permit⁴. Also, at the time, WIPP projected that only Panels 1, 2, 3, and 4, and disposal area access drifts (designated as Panels 9 and 10) would need to be mined during the initial ten-year term of the permit⁵.

This early estimate as to how much of the 175,600 m³ design capacity would be used during the initial ten-year term of the permit was based on what was known at the time (i.e., 1996) about

¹ These disposal area access drifts were designated Panel 9 and Panel 10, but no engineering designs were submitted for them in the 1996 RCRA Part B Permit Application. Panels 9 and 10 are slated to receive TRU waste sometime after the current term of the HWFP which expires on November 26, 2009.

² 40 CFR §270.42(d)(1), Other modifications, "...In the case of modifications not explicitly listed in Appendix I of this section, the permittee may submit a Class 3 modification request..."

³ WIPP RCRA Part A Permit Application, Revision 6, pgs. A-4 and A-5, "...B. Process Design Capacity...175,600 TOTAL (54,064 in ten years)...The geologic repository has been divided into ten discrete hazardous waste management units (HWMU) which are being permitted under 40 CFR Part 264, Subpart X...", note: Part B of the Permit Application included engineering designs for only Panels 1 through 8, and acknowledged that Panels 9 and 10 would be designed and permitted at a subsequent date.

⁴ WIPP RCRA Part B Permit Application, Revision 6, DOE/WIPP 91-0025, pg. B-9, "...Waste disposal will occur in the underground portion of the WIPP facility in areas designated as Panels 1 through 8...For the ten year term of this permit, the DOE plans to dispose of up to 1,840,000 cubic ft (52,110 cubic m) of contact-handled (CH) waste and 69,000 ft³ (1,954 m³) of RH waste, in Panels 1 to 3..."

⁵ *Ibid.*, pg. D-70, "...The DOE intends to mine panels in the following order: Panel 9 (disposal area access drift), Panel 2, Panel 10 (disposal area access drift), Panel 3, Panel 4. Future panels are not expected to be needed during the duration of the permit being sought by this application. Panels 5 through 8 will be mined in order under a new permit..."

1) the TRU waste inventory, and 2) plans for cleaning up TRU waste at the various generator sites in the DOE complex.

2.2 Review and Approval of the RCRA Permit Application

The process design capacity of 175,600 m³, and the design of eight HWDUs were evaluated by the New Mexico Environment Department's (NMED's) hearing officer during the public permit proceedings for the WIPP⁶. NMED approved the WIPP's RCRA Permit Application and issued the HWFP on October 27, 1999. The HWFP is effective for a term of 10 years ending on November 26, 2009⁷.

3.0 How TRU Waste Design Capacity Is Utilized at WIPP

Each HWDU (i.e., panel) in the underground is comprised of seven disposal rooms. Disposal rooms are filled sequentially in each panel (i.e., from Room 7 to Room 1), and panels are in turn filled in sequence. See Section 8 and Figure 6 below for a detailed description of how panels are mined and filled with TRU waste.

3.1 Container Types and CH TRU Waste Volumes Emplaced in Panels

The total volume of contact handled (CH) TRU waste that can be emplaced within a panel can vary as a function of the disposal container configuration⁸. For CH waste disposal planning purposes, the RCRA Permit Application assumed a 60 percent - 40 percent combination of 7-packs of 55-gallon drums and standard waste boxes (SWBs) resulting in an assumed 18,750 m³ of CH waste per panel⁹. As explained in more detail in Section 8 below, for planning of mining and waste emplacement, the Permittees assume that the volumetric equivalent of 7-packs is disposed of in each panel.

4.0 What Has Changed Since Submission of the WIPP's RCRA Permit Application?

Since submission of the WIPP's RCRA Permit Application in 1996, the nation's program to cleanup the TRU waste legacy of the cold war has evolved and several initiatives are underway to not only reduce risks sooner, but also to improve the overall efficiency of the program. This

⁶ Report of the Hearing Officer, October, 1999, HRM 98-04(p), Findings of Fact and Conclusions of Law

⁷ Hazardous Waste Facility Permit Number NM4890139088-TSDF, certificate signed by the Secretary of the NMED, "...This permit shall become effective thirty (30) days after notice of the decision has been served on the applicants, and shall remain in effect for ten (10) years...", note: notice of the NMED Secretary's decision was served on the applicants on October 27, 1999

⁸ HWFP, Attachment I, Closure Plan, Section I-1c, "...Maximum waste volumes in the disposal panels are calculated as follows: for 100 percent 55- gallon drums--11,502 7-packs consisting of 80,514 drums and 591,800 ft³ (16,760 m³) of waste; for 100 percent standard waste boxes (SWB)--11,580 SWBs and 767,750 ft³ (21,740 m³) of waste. Since the waste can arrive in any combination of 7-packs and SWBs, a fixed volume is not set for each panel...", <http://www.wipp.carlsbad.nm.us/library/rcrappermit/Att-I.pdf>

⁹ Ibid., "... For planning purposes, a maximum achievable volume is used. This equates to 662,400 ft³ (18,750 m³) of contact handled (CH) TRU per panel..."

section gives an overview of these initiatives and then describes the planning schedules and forecasts forming the basis of this PMR.

4.1 Original Waste Receipt Estimates

The WIPP's 1996 RCRA Permit Application, Revision 6, estimated that the facility would only receive about 54,000 m³ of waste during the initial ten-year term of the HWFP. This estimate was based on information available at the time, such as the TRU waste inventory, planned TRU waste cleanup and environmental restoration efforts around the DOE complex, and the anticipated capabilities of TRU waste transportation infrastructure.

4.2 Module IV of the HWFP

The original 1996 estimates of waste volumes to be received during the initial ten-year term of the permit were incorporated into the HWFP in Module IV¹⁰. This module limits disposal to a maximum of 54,000 m³ of waste in Panels 1, 2, and 3 during the ten-year term of the permit¹¹. Module IV of the HWFP also limits construction to only Panels 10, 2, 9, 3, and 4 during the 10 year term of the permit¹². These HWFP provisions are the focus of this PMR. There are other provisions of the HWFP that are affected by this PMR's proposed changes to Module IV (e.g., Table I-1 of the Closure Plan in Attachment I) - see Section 11 below for proposed changes to the text of the HWFP.

4.3 Current Risk Reduction Initiatives

Starting in the late 1990s, DOE accelerated preparations for and planning of waste shipments in anticipation of issuance of WIPP's RCRA permit. An outgrowth of this effort was publication of the National TRU Waste Management Plan, a document describing the DOE's near term and long term plans for cleanup of TRU waste around the DOE complex¹³.

In February 2002, DOE documented a top to bottom review, launching its complex-wide effort to accelerate environmental cleanup at DOE sites¹⁴. TRU wastes stored on the surface in the DOE complex pose risks that are subject to the accelerated cleanup initiatives being implemented at individual DOE sites¹⁵. The WIPP project in particular is supporting efforts to

¹⁰ HWFP, Module IV, Geologic Repository Disposal, Section IV.A.1.b., "...The Permittees shall dispose TRU mixed waste containers in three (3) underground HWDUs, as specified in Table IV.A.1 below and depicted in Permit Attachment M2, Figure M2-1. The Permittees may dispose quantities of TRU mixed waste containers in these locations not to exceed the maximum capacities specified in Table IV.A.1 below...", <http://www.wipp.carlsbad.nm.us/library/rcrapermi/Mod-IV.pdf>

¹¹ *Ibid.*, Table IV.A.1

¹² *Ibid.*, Section IV.E.2., Repository Construction

¹³ National TRU Waste Management Plan, Rev. 2, December, 2000, <http://www.wipp.carlsbad.nm.us/library/ntwmp/rev2/Cover.pdf>

¹⁴ A Review of the Environmental Management Program, 2/4/02, <http://www.em.doe.gov/ttbr.pdf>

¹⁵ Statement of The Honorable Robert G. Card Undersecretary and Jessie H. Roberson Assistant Secretary for Environmental Management, U.S. Department of Energy, before the Subcommittee on Strategic Forces Committee on Armed Services, U.S. House of Representatives, 3/6/03, http://www.energy.gov/HQDocs/testimony/2003/20030307_v.htm, "...The following categories of materials are considered to pose the highest risk:...• TRU waste stored on the surface..."

reduce risk and speed cleanup by increasing the number of shipments to the WIPP¹⁶. Following publication of the top to bottom review, the DOE developed performance management plans for each major site in the complex, and also entered into Letters of Intent with various state regulatory agencies overseeing DOE sites.

The WIPP project plays a key role in these risk reduction initiatives, and is a major participant in the top to bottom review activities. Like other major DOE sites, the WIPP developed a Performance Management Plan (**PMP**)¹⁷. The WIPP's PMP will assist readers in understanding the HWFP changes sought by this PMR - see detailed discussion in Section 7 below. Also, like the other major DOE sites, the CBFO was a signatory to a Letter of Intent with its state regulator, the NMED¹⁸. This Letter of Intent describes the importance to New Mexico of the various risk reduction goals set forth in the top to bottom review.

Central to the DOE's risk reduction efforts are various strategic initiatives, both near term and long term, that will accomplish risk reduction goals by moving surface-stored TRU waste to the WIPP. Examples include:

- deployment of half-sized TRU package transporter shipping containers (**HALFPACT**);
- acceleration of TRU waste processing at the Advanced Mixed Waste Treatment Project at the Idaho National Environmental and Engineering Laboratory;
- current and ongoing emphasis on the Central Characterization Project deployment of mobile characterization systems at Argonne National Laboratory-East, the Savannah River Site, and the Nevada Test Site;
- approval and use of third generation TRU package transporter shipping containers (**TRUPACT-III**); and,
- shipments to WIPP via rail.

Implementing many of these initiatives will require future modifications to the WIPP HWFP that will be proposed by the Permittees when enough information is available to prepare the necessary modification requests.

The following sections discuss the shipping rates to the WIPP from 1999 to the present, and the near term and long term schedules and forecasts for TRU waste shipments to the WIPP. These sections provide information on why the Permittees need to mine and use more HWDUs during the ten-year term of the current HWFP.

¹⁶ *Ibid.*, "...WIPP • Increase carrier capacity from 25 to 34 shipments of TRU waste per week..."

¹⁷ Transuranic Waste Performance Management Plan, August 2002, <http://www.wipp.carlsbad.nm.us/suvw/july2002/FTWPMP.pdf>

¹⁸ Letter of Intent, Meeting Environmental Responsibilities At New Mexico DOE Facilities, 2002, http://www.em.doe.gov/Letter_of_IntentNM_508.pdf

5.0 Historical Waste Shipments: March 1999 Through March 2003

The WIPP received its first shipment of TRU waste on March 26, 1999. Through March 12, 2003, the WIPP had received a total of 1,559 shipments¹⁹. Waste shipment rates have grown throughout this period (see Figure 2 below)²⁰.

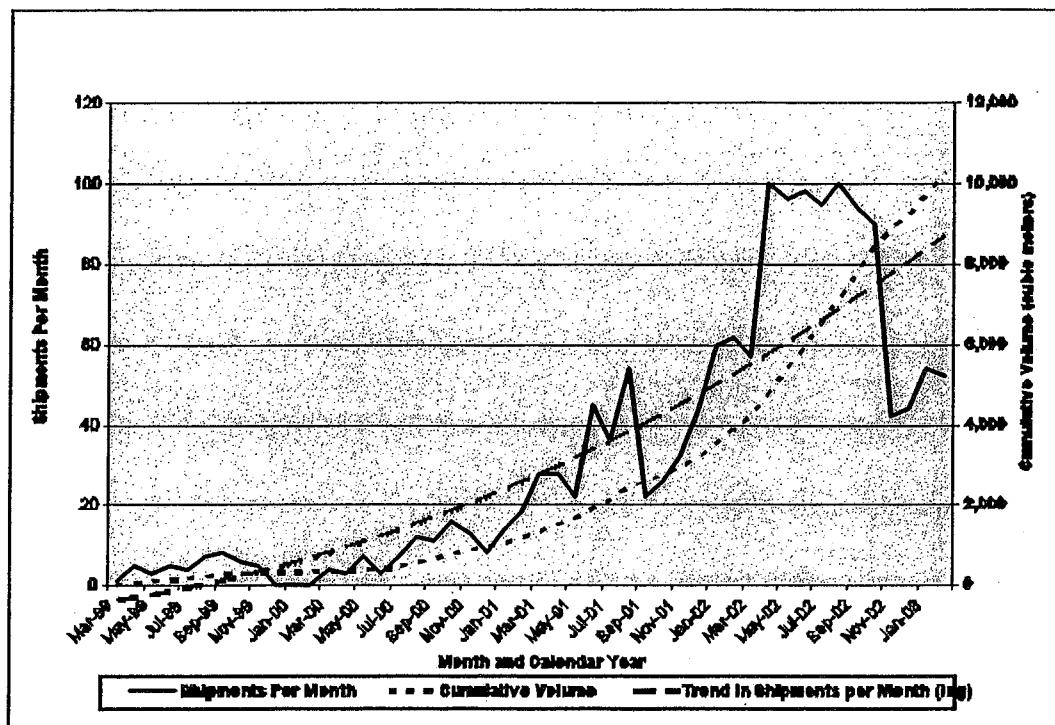


Figure 2, Historical Shipments of CH TRU Waste to the WIPP

5.1 Panel 1 Experience

Panel 1 was filled up on March 12, 2003. A total of 10,496 m³ of TRU waste was emplaced into Panel 1. The total volume of waste in Panel 1 is significantly less than originally anticipated in the RCRA Permit Application because there are three rooms in the panel that contain less waste than other rooms in the panel²¹. As explained in Section 8 below, subsequent panels will contain more waste than Panel 1.

¹⁹ Shipment documentation (e.g., number of shipments, volume of waste received, container types, etc.) is maintained in the WIPP Waste Information System as required in Section II.C.1.g of Module II of the HWFP, and Section B4 of the facility's Waste Analysis Plan.

²⁰ The drop in shipments per month between September 2002 and November 2002 is due primarily to completion of the 3,100 m³ shipping campaign from the Idaho National Environmental and Engineering Laboratory to the WIPP.

²¹ Letter from H. L. Plum of DOE-CBFO to S. Zappe of NMED-HWB, 6/29/01, Re: this letter explains that the partial utilization of the capacity of Panel 1 was due to operational and technical considerations (i.e., primarily the length of time the panel was open after mining and the effects of salt creep).

6.0 Near Term Planning: EM-1 Baseline Shipping Schedule

The National TRU Program approaches planning for waste shipments to the WIPP from two perspectives - short term and long term. The short term involves planned shipments one to two years from the present. The DOE's near term planning tool for TRU waste shipments to the WIPP is the Baseline Shipping Schedule (BSS).

6.1 Purpose of the BSS

The BSS is a planning tool used by DOE Headquarters, Office of Environmental Management (EM-1), and DOE Site Managers, including the Manager of the CBFO, to plan near term shipments of TRU waste to the WIPP. The basic information contained in the BSS is the number and schedule of shipments from each DOE site to the WIPP. This information is provided by individual DOE sites through their planning and scheduling programs. Information is assimilated into the BSS and a spreadsheet is produced listing the forecasted shipments from each site. A copy of the BSS is included with this PMR as Attachment C for illustration purposes.

As explained in more detail in Section 6.2 below, the BSS is a living document that is updated periodically. As such, the Permittees do not intend that the example BSS at Attachment C be incorporated into the HWFP - it is provided only to aid readers' understanding of the changes being sought by this PMR.

At present, the BSS only covers CH TRU waste. In the future, after the Permittees secure approval from NMED to dispose of remote handled (RH) TRU waste at the WIPP, the BSS will incorporate shipping schedules for RH TRU waste.

6.2 How the BSS is Updated

The BSS is a controlled document maintained by the DOE's EM-1 office. As such, any changes follow a set procedure, managed by DOE Headquarters through the Configuration Control Board (CCB). DOE site managers, in consultation with the CCB, periodically update the shipping forecast in the BSS. After proposed revisions are reviewed and approved by the CCB, the revised BSS is promulgated by EM-1 and distributed to appropriate DOE site managers, and to organizations that represent states where DOE sites are located (e.g., the Western Governor's Association).

6.3 The BSS Forecast for CH TRU Waste

Figure 3 below depicts the shipments forecasted in the BSS and the cumulative volume (from start of WIPP operations in March 1999) of CH TRU waste to be disposed of at WIPP.

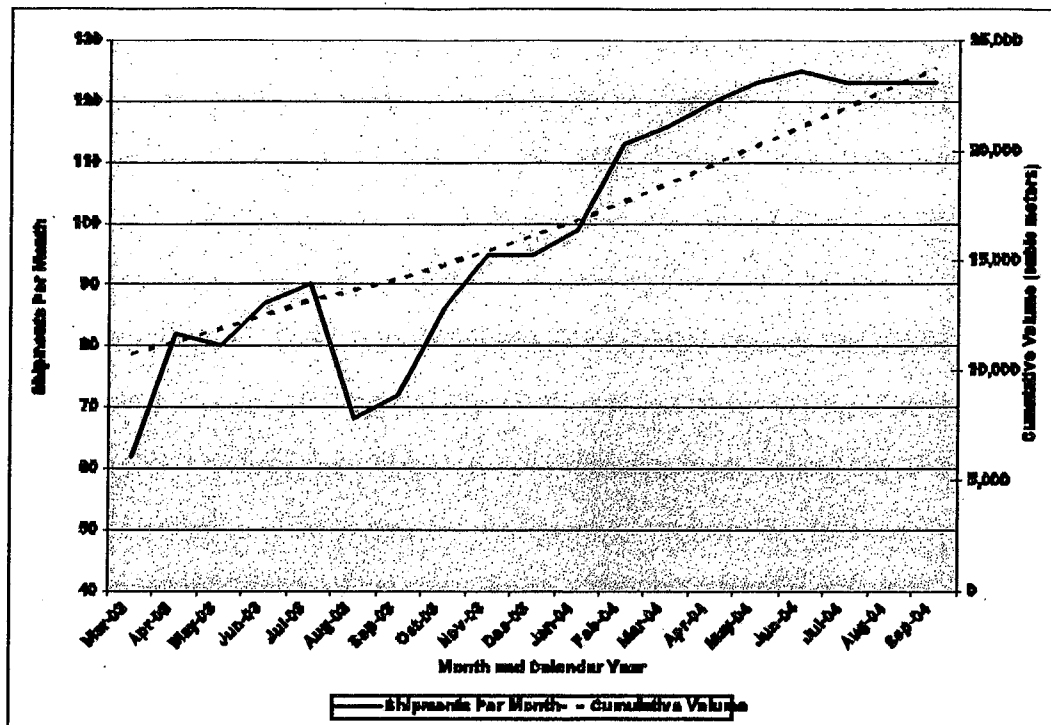


Figure 3, Forecasted Near Term CH TRU Waste Shipments to the WIPP
 (adapted from EM-1 Baseline Shipping Schedule, Rev. 2, 3/24/03,
 note: Fiscal Year 2005 starts on October 1 of Calendar Year 2004))

7.0 Long Term Planning: TRU Waste Performance Management Plan

The DOE's long term planning tool for TRU Waste shipments to the WIPP is the TRU Waste Performance Management Plan²². As described in Section 4.3 above, the PMP is an outgrowth of the top to bottom review, and focuses on the WIPP's role in complex-wide efforts to reduce risks and speed disposal of TRU waste.

7.1 Purpose of the PMP

The PMP is a tool used by the DOE EM-1, and DOE site managers, including the CBFO Manager, to plan long term shipments of TRU waste to the WIPP. Guiding the PMP is the WIPP's two-fold mission of disposal of legacy TRU waste (waste generated from historical weapons production activities), and disposal of newly generated TRU waste (waste generated primarily from facility decommissioning activities)²³.

7.2 Beginning Date of RH TRU Waste Shipments

The PMP includes long term forecasted schedules for shipments of both CH TRU waste and RH TRU waste to the WIPP. In June 2002, the WIPP submitted a PMR to NMED seeking approval

²² Transuranic Waste Performance Management Plan, August 2002,
<http://www.wipp.carlsbad.nm.us/suyw/july2002/FTWPMP.pdf>

²³ *Ibid.*, pg. 11

for disposal of RH TRU waste²⁴. The PMP forecasts that shipments of RH TRU waste will not start until the second quarter of fiscal year 2005 (i.e., around March of calendar year 2005), sometime after the NMED approves the RH TRU waste PMR. Section 8 below includes a discussion of how RH TRU waste is factored into planning of mining and emplacement of CH TRU waste, and how this PMR for construction and use of HWDUs relates to the previously submitted RH TRU waste PMR.

Nothing in this PMR should be interpreted as an attempt on the part of the Permittees to avoid, or otherwise circumvent the ongoing RH TRU waste permitting process. See Section 8.4 below for a more detailed discussion of how this PMR for construction and use of HWDUs relates to the RH TRU waste PMR currently pending before the NMED.

7.3 Important Assumptions in the PMP

Because the PMP is a long range document covering fiscal years 2005 to 2035, certain assumptions are made regarding the various risk reduction initiatives described in Section 4.3 above. These assumptions are used in producing the TRU waste shipping forecasts in the PMP, and include²⁵:

- A general truck shipment consists of three TRUPACT-IIs containing 35 55-gallon drums or 7.4 m³ of waste²⁶ (unless the specific configuration for a particular site is known.);
- A general truck shipment consists of one TRUPACT-III containing the equivalent of two 5 feet x 5 feet x 8 feet boxes or about 11.4 m³;
- A general rail shipment consists of nine TRUPACT-IIIs with a volume of 102.6 m³;
- The TRUPACT-III will be available for use in FY07 and the date of individual site usage of TRUPACT-IIIs is dependent on the capability of each site, such as the availability of facilities for characterizing or handling of oversized containers;
- The breakout between truck and rail, and TRUPACT-II or TRUPACT-III is site-specific. Sites are assumed to use the most efficient package or transportation mode as it becomes available;
- Characterization methods for oversized containers and/or large boxes is approved prior to FY07;
- For RH TRU waste shipments, waste will be shipped in the RH-72B Casks or 10-160B Casks depending on site infrastructure; and,
- The time required to handle a TRUPACT-III through the WIPP Facility is assumed to be no greater than the time required for a TRUPACT-II.

²⁴ Request for Class 3 Permit Modification (Remote Handled Waste), 6/28/02

²⁵ Transuranic Waste Performance Management Plan, Chapter 5.0 Schedules, <http://www.wipp.carlsbad.nm.us/suyw/july2002/FTWPMMP.pdf>

²⁶ TRUPACT-II shipping containers can hold up to 14 fifty-five gallon drums. Because some CH TRU waste shipments to the WIPP include "dunnage" drums (i.e., empty drums used to fill in bundled 7 packs of 55-gallon drums), the PMP assumes that the capacity of TRUPACT-II shipments is used at an efficiency rate of about 80%.

Like the BSS, the PMP is a living document that is updated periodically - the PMP can be accessed at: <http://www.wipp.carlsbad.nm.us/suyw/july2002/FTWPMP.pdf>, and may help readers understand the proposed HWFP changes.

7.4 The PMP Forecast for CH TRU Waste

Figure 4 below depicts the CH TRU waste shipments forecasted in the PMP and the cumulative volume of CH TRU waste to be shipped to WIPP from the beginning of fiscal year 2005 through the end of fiscal year 2015. This forecast represents the accelerated plan for shipping retrievably stored legacy waste to the WIPP. The WIPP will maintain an ongoing TRU waste disposal mission after 2015 for newly generated TRU waste.

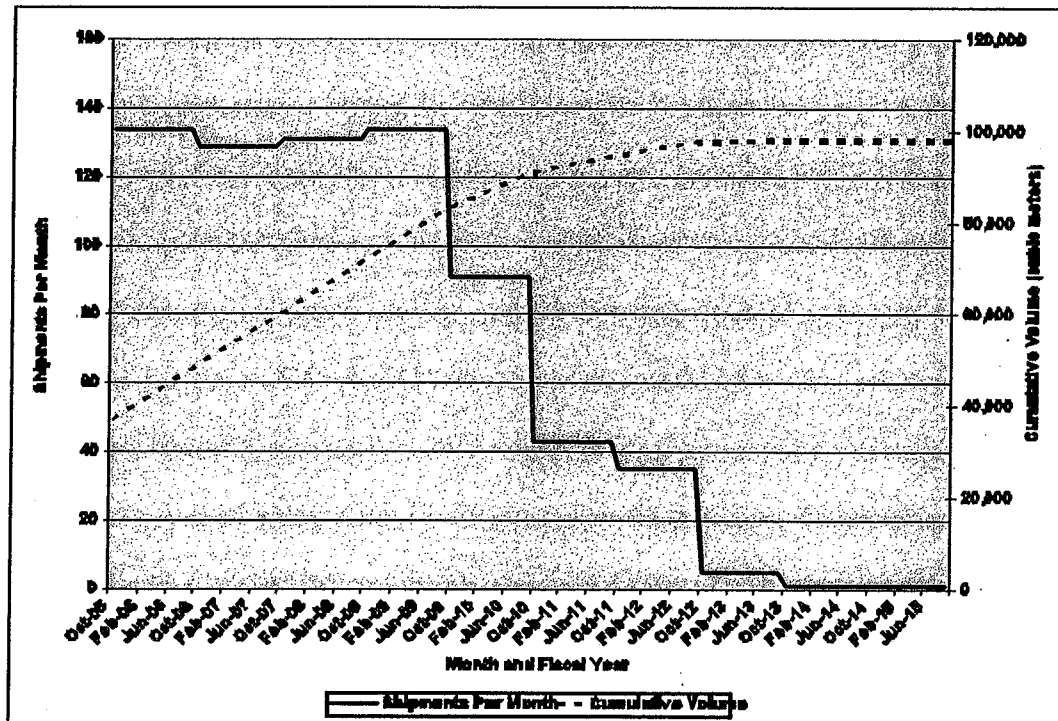


Figure 4, Forecasted Long Term CH TRU Waste Shipments to the WIPP
(adapted from the TRU Waste Performance Management Plan, August 2002)

7.5 The PMP Forecast for RH TRU Waste

Figure 5 below depicts the RH TRU waste shipments forecasted in the PMP and the cumulative volume (measured from the anticipated start date in the second quarter of fiscal year 2005) of RH TRU waste to be shipped to WIPP.

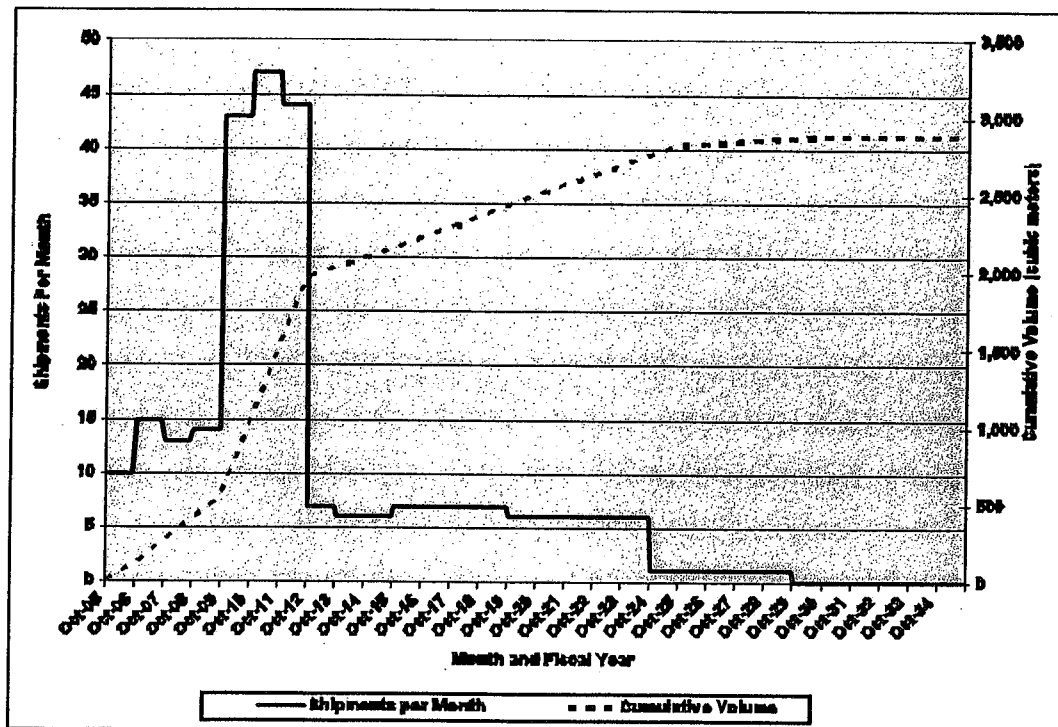


Figure 5, Forecasted Long Term RH TRU Waste Shipments to the WIPP
(adapted from the TRU Waste Performance Management Plan, August 2002)

8.0 Mining and Waste Emplacement Schedule

Mine engineers and operations managers at the WIPP must plan for panel development and certification, as well as waste emplacement, based on the number of shipments that are expected to be received at the WIPP both in the near term and the long term.

8.1 Role of the BSS and the PMP in Planning, Mining and Waste Emplacement

Both the BSS and PMP are used by mine engineering and operations managers to not only plan for the construction of each HWDU, but also to plan for utilization of the available disposal space in each HWDU. This planning applies to currently open HWDUs, as well as HWDUs needed in the future. The BSS and PMP forecasts are used in conjunction with WIPP operations information (e.g., mining crew work schedules, hoisting constraints) to produce a mining and waste emplacement schedule that is updated periodically.

As described in Section 3.1 above, the types of disposal containers actually shipped to the WIPP (e.g., 7-packs of 55 gallon drums vs. SWBs, or some combination) control the volume of waste that is emplaced in any given panel. To simplify planning for waste emplacement and mining,

the WIPP operations personnel generally assume that all containers received are volumetrically equivalent to 7-packs of 55 gallon drums.

The mining/waste emplacement schedule summary produced from data in the BSS and PMP identifies the:

- beginning date of filling of individual rooms in panels (both CH and RH TRU waste);
- ending date of filling of individual rooms in panels (both CH and RH TRU waste);
- beginning date of panel mining; and,
- ending date of panel mining.

Attachment D to this PMR includes a copy of the April 2003 *Mining/Waste Emplacement Schedule Summary*. Like the BSS and PMP on which it is based, the *Mining/Waste Emplacement Schedule Summary* is a living document that is periodically updated. The Permittees do not intend that the example *Mining/Waste Emplacement Schedule Summary* at Attachment D be incorporated into the HWFP - it is simply provided to aid readers' understanding of the changes being sought by this PMR.

Module IV of the HWFP states that a maximum of 18,000 m³ of TRU waste will be disposed of in each of Panels 1, 2, and 3²⁷. Because the BSS, PMP, and mining/waste emplacement data show that the 18,000 m³ limit for each panel will not be exceeded, this PMR does not propose to change the per panel TRU waste maximum capacity set forth in Table IV.A.1. of the HWFP (see Section 11 below).

8.2 How RH TRU Waste is Factored into the Mining and Waste Emplacement Schedule

RH TRU waste emplacement has to occur at least one room ahead of the advancing CH TRU waste working face (i.e., the location at which CH TRU waste is being emplaced). This is because waste disposal operations personnel must have ready access to the CH TRU working face, and cannot be impeded by ongoing activities of the RH TRU waste emplacement process (i.e., drilling holes for RH TRU waste canisters, or emplacing RH TRU waste canisters). By keeping the RH TRU waste emplacement area at least one room ahead of the advancing CH working face, CH TRU waste disposal operations can occur in one room, while RH canister hole drilling, and RH TRU waste emplacement can occur in other rooms. Figure 6 below depicts this important concept.

²⁷ HWFP, Module IV, Geologic Repository Disposal, Table IV.A.1., <http://www.wipp.carlsbad.nm.us/library/rcrapermi/Mod-IV.pdf>

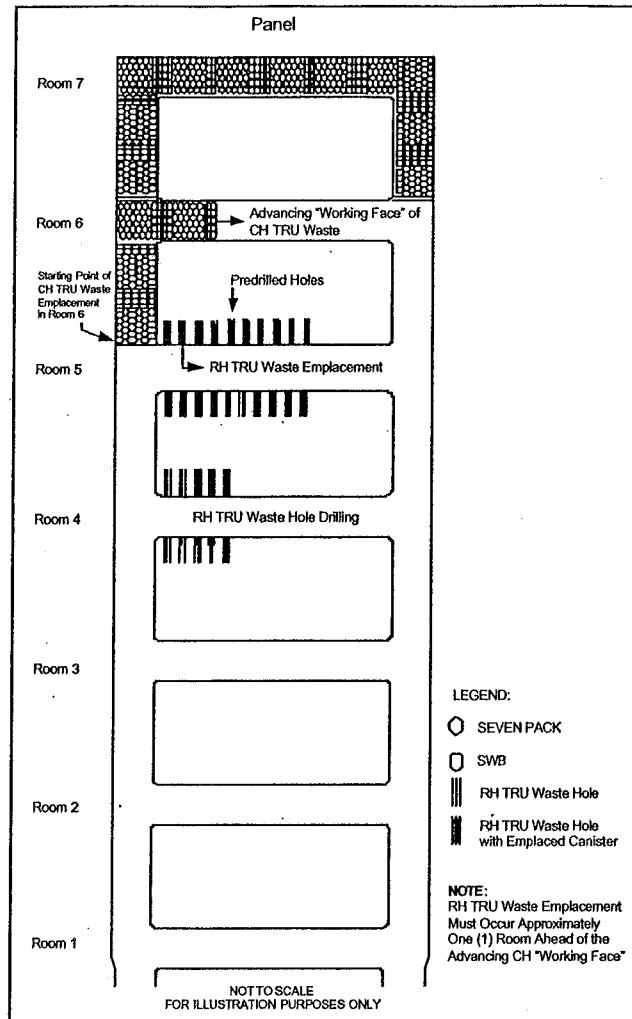


Figure 6, How RH TRU Waste is Emplaced Relative to CH TRU Waste

To help illustrate the relationship between the advancing CH TRU waste working face and progression of RH TRU waste emplacement, consider the *Mining/Waste Emplacement Schedule Summary* included in Attachment D to this PMR. For example, Attachment D shows that on November 25, 2006 the CH TRU waste working face will be in Room 3 of Panel 4, and RH TRU waste emplacement will be occurring in Room 2 of Panel 4.

8.3 Forecasted Rate at which Panels are Mined and Filled

The information contained in the *Mining/Waste Emplacement Schedule Summary* can be plotted to show when the various panels are mined and filled with TRU waste. The Panel Mining and Waste Emplacement timeline, as of April 2003, is included in Attachment E to this PMR. The Permittees do not intend that the Panel Mining and Waste Emplacement Timeline in Attachment D be incorporated into the HWFP - it is simply provided to aid readers' understanding of the changes being sought by this PMR.

8.4 Relationship of this PMR to the RH TRU Waste PMR

In June 2002, the Permittees submitted a PMR to NMED seeking approval for disposal of RH TRU waste²⁸. At the time the RH TRU waste PMR was being written, the PMP was under development, and the shipping forecasts for RH TRU waste had not been completed, and as such, the RH TRU waste PMR included a proposal to use Panels 4 and 5²⁹.

On March 5, 2003, the NMED issued a Notice of Deficiency (**NOD**) in response to the RH TRU waste PMR, and included comments on the proposed use of more HWDUs³⁰. The Permittees are in the process of responding to the NOD. However, the NMED's NOD comments on use of panels are intended to be addressed, in part, with this PMR for construction and use of HWDUs. In light of publication of the PMP in August 2002, the Permittees believe that this PMR is an appropriate forum in which to explain and justify the construction and use of HWDUs for TRU waste in general (i.e., both CH and RH TRU waste).

With this PMR, the Permittees are seeking to utilize the design capacity of the WIPP at a rate that the capacity is needed to support current shipping schedules and forecasts - regardless of what type of TRU waste (CH or RH) is to be shipped to the WIPP. The overall issue of NMED approval of management of RH TRU waste at the WIPP will still be addressed under the ongoing RH TRU waste PMR process.

9.0 Importance of this PMR

As explained in the foregoing sections, current shipping schedules and forecasts show that during the current term of the HWFP, the WIPP will need to construct and dispose of waste beyond Panels 1, 2, and 3. As shown by the *Mining and Waste Emplacement Timeline* in Attachment E to this PMR, the date on which mining in Panel 5 should begin is July 21, 2005. Because the BSS and PMP forecast that the WIPP will receive waste at a faster rate during the current term of the HWFP, it's important that the changes presented in this PMR be addressed now.

9.1 Expiration and Renewal of the Current HWFP

The current ten-year term of the HWFP will expire on November 26, 2009. The Permittees will submit a renewal application at least 180 days prior to the expiration date³¹. As is shown by the *Mining/Waste Emplacement Schedule Summary* in Attachment D to this PMR, and the timeline in Attachment E to this PMR, on November 26, 2009, the CH TRU waste working face is projected to be in Room 1 of Panel 6, and RH TRU waste emplacement is projected to be occurring in Room 7 of Panel 7.

²⁸ Request for Class 3 Permit Modification (Remote Handled Waste), 6/28/02

²⁹ *Ibid.*, Section 4.1.2

³⁰ Letter from J. Bearzi of NMED-HWB to Dr. I. Triay of DOE-CBFO, and Dr. S. Warren of WTS, 3/5/03, Re: Notice of Deficiency (NOD), Class 3 Permit Modification Request for Remote Handled Waste, Comment 4-1. Section 4.1.2, "...This section of the PMR increases the number of panels from a total of three panels to five panels but the PMR does not clearly articulate the fact that this modification will require an increase in waste volume capacity. In addition, the justification for the PMR provided in Section 2.0 also does not adequately address the increase in waste volume for the WIPP site. The Permittees should clarify this issue..."

³¹ HWFP, Module I, Section I.E.3., "Duty to Reapply If the Permittees wish to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittees shall apply for and obtain a new Permit. The Permittees shall submit an application for a new Permit at least one hundred eighty (180) calendar days before the expiration date of this Permit. ...", <http://www.wipp.carlsbad.nm.us/library/rcrapermits/Mod-I.pdf>

9.2 Why is the WIPP Seeking to Use Panel 7 With this PMR?

Because Panel 7 is projected to be receiving TRU waste on the date of expiration of the HWFP, this PMR seeks authority to use Panel 7 for disposal of TRU waste. Additionally, in regard to disposal of CH TRU waste in Panel 7, this PMR considers the current HWFP provision at Section I.E.4. of Module I for continuation of permitted activities under the expiring permit³². If the NMED does not reissue WIPP's permit by December 27, 2009, the changes proposed in this PMR would provide the Permittees with the ability to dispose of CH TRU waste in Panel 7 until such time as the HWFP was renewed.

10.0 Conclusion

As illustrated by the foregoing sections, shipments to WIPP have increased since the facility opened. Also, forecasted shipments for both the near term and long term show that WIPP will use its design capacity at a faster rate than originally estimated in the 1996 RCRA Permit Application. For these reasons, the Permittees respectfully request that the NMED approve this PMR to allow for construction of HWDUs known as Panels 5, 6, 7, and 8, and to allow use of HWDUs known as Panels 4, 5, 6, and 7 for disposal during the remainder of the current term of the HWFP which expires on November 26, 2009.

The schedules and forecasts described in this PMR are the best estimates that the Permittees have of future shipments of TRU waste to the WIPP. While it is possible that these schedules and forecasts could change as time passes, the Permittees nonetheless believe these estimates are conservative. NMED approval of this PMR will allow the WIPP to support the important goal of reducing risks associated with surface-stored TRU waste.

³² Ibid., Module 1, Section I.E.4., "*Continuation of Expiring Permits*. If the Permittees have submitted a timely and complete application for renewal of this Permit as specified in 20.4.1.900 NMAC (incorporating 40 CFR §§270.10, 270.13 through 270.29), this Permit shall remain in effect until the effective date of the new Permit if, through no fault of the Permittees, the Secretary has not issued a new Permit on or before the expiration date of this Permit...".
<http://www.wipp.carlsbad.nm.us/library/rcrapermits/Mod-I.pdf>

11.0 Revised Permit Text

- a.1 IV.A.1.b. Disposal locations and quantities - the Permittees shall dispose TRU mixed waste containers in ~~three (3)~~seven (7) Underground HWDUs, as specified in Table IV.A.1 below and depicted in Permit Attachment M2, Figure M2-1. The Permittees may dispose quantities of TRU mixed waste containers in these locations not to exceed the maximum capacities specified in Table IV.A.1 below.

- a.2 Table IV.A.1 - Underground HWDUs

Table - Underground HWDUs			
Description	Area	Maximum Capacity	Container Equivalent
Panel 1	124,150 ft ² (11,533 m ²)	636,000 ft ³ (18,000 m ³)	86,500 55-Gallon Drums
Panel 2	124,150 ft ² (11,533 m ²)	636,000 ft ³ (18,000 m ³)	86,500 55-Gallon Drums
Panel 3	124,150 ft ² (11,533 m ²)	636,000 ft ³ (18,000 m ³)	86,500 55-Gallon Drums
<u>Panel 4</u>	<u>124,150 ft²</u> <u>(11,533 m²)</u>	<u>636,000 ft³</u> <u>(18,000 m³)</u>	<u>86,500 55-Gallon Drums</u>
<u>Panel 5</u>	<u>124,150 ft²</u> <u>(11,533 m²)</u>	<u>636,000 ft³</u> <u>(18,000 m³)</u>	<u>86,500 55-Gallon Drums</u>
<u>Panel 6</u>	<u>124,150 ft²</u> <u>(11,533 m²)</u>	<u>636,000 ft³</u> <u>(18,000 m³)</u>	<u>86,500 55-Gallon Drums</u>
<u>Panel 7</u>	<u>124,150 ft²</u> <u>(11,533 m²)</u>	<u>636,000 ft³</u> <u>(18,000 m³)</u>	<u>86,500 55-Gallon Drums</u>
Total	—	4,908,000 ft³ (54,000 m³)	259,500 55-Gallon Drums

- a.3 IV.E.2. Repository Construction

Subject to Permit Condition IV.E.1, the Permittees may excavate the following Underground HWDUs, as depicted in Permit Attachment M2, Figure M2-1, "Repository Horizon", and specified in Section M2-2a(3), "Subsurface Structures (Underground Hazardous Waste Disposal Units (HWDUs))":

- Panel 10 (Disposal area access drift)
- Panel 2
- Panel 9 (Disposal area access drift)
- Panel 3
- Panel 4

- Panel 5
- Panel 6
- Panel 7
- Panel 8

Prior to disposal of TRU mixed waste in a newly constructed Underground HWDU, the Permittees shall comply with the certification requirements specified in Permit Condition I.E.11.

b.1 A-4 Facility Type

The underground structures include the underground Hazardous Waste Disposal Units (HWDUs), an area for future underground HWDUs, the shaft pillar area, interconnecting tunnels and other areas unrelated to the RCRA Hazardous Waste Permit. The underground HWDUs are defined as waste panels, each consisting of seven rooms and two access drifts. The WIPP underground area is designated as Panels 1 through 10, although only Panels 1 through 37 will be used under the terms of this permit. Each of the seven rooms is approximately 300 feet long, 33 feet wide and 13 feet high.

c.1 I-1c Maximum Waste Inventory

The WIPP will receive no more than 6.2 million ft³ (175,600 m³) of TRU mixed waste. Excavations are mined as permitted when needed during operations to maintain a reserve of disposal areas. The amount of waste placed in each room is limited by structural and physical considerations of equipment and design. Waste volumes include waste received from off-site generator locations as well as derived waste from disposal and decontamination operations. Maximum waste volumes in the disposal panels are calculated as follows: for 100 percent 55-gallon drums--11,502 7-packs consisting of 80,514 drums and 591,800 ft³ (16,760 m³) of waste; for 100 percent standard waste boxes (SWB)--11,580 SWBs and 767,750 ft³ (21,740 m³) of waste. Since the waste can arrive in any combination of 7-packs and SWBs, a fixed volume is not set for each panel. Furthermore, the placement of backfill materials to modify chemical nature of brines over the long-term will likely result in fewer containers per panel as described in Permit Attachment M2. For planning purposes, a maximum achievable volume is used. This equates to 662,400 ft³ (18,750 m³) of contact handled (CH) TRU per panel. 81,000 containers were assumed in design calculations since, for air dispersion modeling, it is important to maximize the number of container vents through which volatile organic compounds (VOC) may be released. In reality, using the 40 percent-60 percent mix, there would be only 51,000 containers in a panel, containing 56,000 vents (2 vents per SWB).

The maximum extent of operations during the term of this permit is expected to be Panels 1 through ~~4 and Panels 9 and 10~~ as shown on Figure I-1, the WHB Container Storage Unit, and the Parking Area Container Storage Unit. Note that panels ~~4~~, 9, and 10 are scheduled for excavation only under the initial term of this permit. If other waste management units are permitted during the Disposal Phase, this Closure Plan will be revised to include the additional waste management units. At any given time during disposal operations, it is possible that two rooms may be receiving waste for disposal at the same time. Underground HWDUs in which disposal has been completed (i.e., in which CH TRU mixed waste emplacement activities have ceased) will undergo panel closure.

c.2 I-1d(1) Schedule for Panel Closure

The anticipated schedule for the closure of the underground HWDUs known as Panels 2 through 8 is shown in Figure I-2. This schedule assumes there will be little contamination within the exhaust drift of the panel. The following assumptions are made in estimating the time that closure will be initiated at each underground HWDU: waste operations are assumed to begin in July 1998 for planning purposes; throughput for CH waste is 784 drums per week (7 pallets per day, 4 days per week, 28 drums per pallet); and the capacity of a panel is 81,000 drums. Under these assumptions, a minimum of 104 weeks is needed to emplace the waste. Allowing a 25 percent contingency for maintenance delays and time to transition from one room to another, it is estimated that a panel will be filled 2.5 years after emplacement is initiated. This means that ~~Underground HWDUs will~~should be ready for closure according to the schedule in Table I-1. These dates are estimates for planning and permitting purposes. Actual dates may vary depending on the availability of waste from the generator sites. ~~Waste availability at maximum throughput is not anticipated immediately as assumed here.~~

c.3 Table I-1. Anticipated Earliest Closure Dates for the Underground HWDUs

**TABLE I-1
ANTICIPATED EARLIEST CLOSURE DATES FOR
THE UNDERGROUND HWDUs**

HWDU	OPERATIONS START	OPERATIONS END	CLOSURE START	CLOSURE END
PANEL 1	3/99	2/03	3/03	9/03 SEE NOTE 5
PANEL 2	<u>4/023/03</u>	<u>7/0410/04</u>	<u>8/0411/04</u>	<u>12/054/05</u>
PANEL 3	<u>7/0410/04</u>	<u>4/071/06</u>	<u>2/072/06</u>	<u>6/077/06</u>
PANEL 4	<u>4/0711/05</u>	<u>7/094/07</u>	<u>8/095/07</u>	<u>12/1010/07</u>
PANEL 5	<u>7/093/07</u>	<u>4/128/08</u>	<u>2/129/08</u>	<u>6/122/09</u>
PANEL 6	<u>4/126/08</u>	<u>7/1412/09</u>	<u>8/141/10</u>	<u>12/156/10</u>
PANEL 7	<u>7/149/09</u>	<u>4/179/15</u>	<u>2/1710/15</u>	<u>6/173/16</u>
PANEL 8	<u>4/171/11</u>	<u>7/196/16</u>	<u>8/197/16</u>	<u>12/2012/16</u>
PANEL 9	<u>7/196/16</u>	<u>4/226/17</u>	<u>2/227/17</u>	SEE NOTE 4
PANEL 10	<u>4/226/17</u>	<u>7/246/18</u>	<u>8/247/18</u>	SEE NOTE 4

NOTE 1: Only Panels 1 to 35 will be closed under the initial term of this permit covered by this application. Closure schedules for Panels 46 through 10 are projected assuming new permits will be issued in 2009 and 2019.

NOTE 2: The point of closure start is defined as sixty (60) days following notification to the NMED of closure.

NOTE 3: The point of closure end is defined as one hundred eighty (180) days following placement of final waste in the panel.

NOTE 4: The time to close these areas may be extended depending on the nature and extent of the disturbed rock zone. The excavations that constitute these panels will have been opened for as many as forty (40) years so that the preparation for closure may take longer than the time allotted in Figure I-2. If this extension is needed, it will be requested as an amendment to the Closure Plan.

NOTE 5: The anticipated closure end date for Panel 1 is for installation of the 12-foot explosion isolation wall. Final closure of Panel 1 will be completed as specified in this Permit no later than five years after completion of the explosion isolation wall.

d.1 M2-1 Description of the Geologic Repository

The WIPP geologic repository is mined within a 2,000-feet (ft) (610-meters (m))-thick bedded- salt formation called the Salado Formation. The Underground HWDUs (miscellaneous units) are located 2,150 ft (655 m) beneath the ground surface. TRU mixed waste management activities underground will be confined to the southern portion of the 120-acre (48.5 hectares) mined area during the Disposal Phase. ~~For the purposes~~ During the initial term of this Permit, disposal of containers of TRU mixed waste will occur only in the ~~three~~ seven HWDUs designated as Panels 1-~~3~~ 7 (See Figure M2-1). In the future, the Permittees may request a Permit to dispose of containers of TRU mixed waste in ~~five~~ (5) additional panels that meet the definition of the HWDU in Permit Module IV. ~~These future potential HWDUs have been designated as Panels 4 through 8.~~ In addition, the Permittees may also request in the future a Permit to allow disposal of containers of TRU mixed waste in the north-south entries marked as E-300, E-140, W-30, and W-170, between S-1600 and S-3650. These areas are referred to as the disposal area access drifts and have been designated as Panels 9 and 10 in Figure M2-1. ~~In addition to authorizing the excavation of Panels 2 and 3 and the disposal of waste in Panels 1, 2, and 3,~~ This Permit, during its initial 10 year term, authorizes the excavation of Panels 4, 9, and ~~2 through 10~~ and the disposal of waste in Panels 1 through 7.

Panels 1 through ~~3~~ 7 will consist of seven rooms and two access drifts each. Access drifts connect the rooms and have the same cross section (see Section M2-2a(3)). The closure system installed in each HWDU after it is filled will prevent anyone from entering the HWDU and will stop ventilation airflow. The point of compliance for air emissions from the Underground is Sampling Station VOC-A, as defined in Permit Attachment N (Confirmatory Volatile Organic Compound Monitoring Plan). Sampling Station VOC-A is the location where the concentration of volatile organic compounds (VOCs) in the air emissions from the Underground HWDUs will be measured and then compared to the VOC concentration of concern as required by Permit Module IV.

Four shafts connect the underground area with the surface. The Waste Shaft headframe and hoist are located within the Waste Handling Building (WHB) and will be used to transport containers of TRU mixed waste, equipment, and materials to the repository horizon. The waste hoist can also be used to transport personnel. The Air Intake Shaft and the Salt Handling Shaft provide ventilation to all areas of the mine except for the

Waste Shaft Station. This area is ventilated by the Waste Shaft itself. The Salt Handling Shaft is also used to hoist mined salt to the surface and serves as the principal personnel transport shaft. The Exhaust Shaft serves as a common exhaust air duct for all areas of the mine. The relationship between the WIPP surface facility, the four shafts, and the geologic repository horizon is shown on Figure M2-2.

The HWDUs identified as Panels 1 through 37 (Figure M2-1) provide room for 4,908,000 4,452,000 cubic feet (ft³) (54,000 126,000 meters (m³)) of CH TRU mixed waste. The CH TRU mixed waste containers (typically, 7-packs and standard waste boxes (SWBs)) may be stacked three-high across the width of the room.

d.2 M2-2a(3) Subsurface Structures

Underground Hazardous Waste Disposal Units (HWDUs)

During the initial term of this Permit, the volume of TRU mixed waste emplaced in the repository will not exceed 4,908,000 4,452,000 ft³ (54,000 126,000 m³). Waste will be disposed of in up to 37 Underground HWDUs identified as Panels 1, 2, and 3 through 7.

Main entries and cross cuts in the repository provide access and ventilation to the HWDUs. The main entries link the shaft pillar/service area with the TRU mixed waste management area and are separated by pillars. Normal entries are 12 ft (3.7 m) to 13 ft (4.0 m) high and 14 ft (4.3 m) to 16 ft (4.9 m) wide. Each of the Underground HWDUs labeled Panels 1 through 37 will have seven rooms. The locations of these HWDUs are shown in Figure M2-1. The rooms will have nominal dimensions of 13 ft (4.0 m) high by 33 ft (10 m) wide by 300 ft (91 m) long and will be supported by 100 ft- (30 m-) wide pillars.

As currently planned, future Permits may allow disposal of TRU mixed waste containers in five three additional panels ~~with seven rooms~~, identified as Panels 4 through 8, 9, and 10. Disposal of TRU mixed waste in Panels 4 through 8, 9, and 10 is prohibited under this Permit. If waste volumes disposed of in the eight panels fail to reach the stated design capacity, the Permittees may request a Permit to allow disposal of TRU mixed waste in the four main entries and crosscuts adjacent to the waste panels (referred to as the disposal area access drifts). These areas are labeled Panels 9 and 10 in Figure M2-1. This Permit allows only the construction of Panels 9 and 10 and prohibits disposal of TRU mixed waste in Panels 9 and 10. A permit modification or future permit would be submitted describing the condition of those drifts and the controls exercised for personnel safety and environmental protection while disposing of waste in these areas. These areas have the following nominal dimensions:

- E-300 will be mined to be 14 ft (4.3 m) to 16 ft (4.9 m) wide and 12 ft (3.7 m) to 13 ft (4.0 m) high
- E-140 is mined to 25 ft (7.6 m) wide by 13 ft (4 m) high
- W-030 and W-170 will be similar to E-300.

All extend from S-1600 to S-3650 (i.e., 2050 ft long [625 m]). Crosscuts (east-west entries) will be 20 ft (6.1 m) wide by 13 ft (4 m) high by 470 ft (143 m) long. The layout of these excavations is shown on Figure M2-1.

Panel 1 is the first HWMU to be used for waste disposal and was excavated from 1986 through 1988. The panels may be mined in the following order:

- Panel 10 (disposal area access drift)
- Panel 2
- Panel 9 (disposal area access drift)
- Panel 3
- Panel 4
- Panel 5
- Panel 6
- Panel 7
- Panel 8

d.3 M2-2b Geologic Repository Process Description

A forklift in the HWDU near the waste stack will be used to remove the waste containers from the facility pallets and to place them in the waste stack using a push-pull attachment. The waste will be emplaced room by room in Panels 1 through 37. Each panel will be closed off when filled. If a waste container is damaged during the Disposal Phase, it will be immediately overpacked or repaired. CH TRU waste containers will be continuously vented. The filter vents will allow aspiration, preventing internal pressurization of the container and minimizing the buildup of flammable gas concentrations.

Once a waste panel is mined and any initial ground control established, flow regulators will be constructed to assure adequate control over ventilation during waste emplacement activities. The first room to be filled with waste will be Room 7, which is the one that is farthest from the main access ways. A ventilation control point will be established for Room 7 just outside the exhaust side of Room 6. This ventilation control point will consist of a bulkhead with a ventilation regulator. Stacking of CH waste will begin at the ventilation control point and proceed down the access drift, through the room and up the intake access drift until the entrance of Room 6 is reached. At that point, a brattice cloth and chain link barricade will be emplaced. This process will be repeated for Room 6, and so on until Room 1 is filled. At that point, the panel closure system will be constructed.

The emplacement of CH TRU mixed waste into the HWDUs will typically be in the order received and unloaded from the Contact Handled Packaging. There is no specification for the amount of space to be maintained between the waste containers themselves, or between the waste containers and the walls. Containers will be stacked in the best manner to provide stability for the stack (which is up to three containers high) and to make best use of available space. It is anticipated that the space between the wall and the container could be from 8 to 18 in. (20 to 46 cm). This space is a function of disposal room wall irregularities, container type, and sequence of emplacement. Bags of backfill will occupy some of this space. Space is required over the stacks of containers to assure adequate ventilation for waste handling operations. A minimum of 16 in. (41 cm) was specified in the Final Design Validation Report (Appendix D1, Chapter 12 of the WIPP RCRA Part B Permit Application (DOE, 1997)) to maintain air flow. Typically, the space above a stack of containers will be 36 to 48 in. (90 to 122 cm). However 18 in. (0.45 m) will contain backfill material consisting of bags of Magnesium Oxide (MgO). Figure M2-8 shows a typical container configuration, although this figure does not mix containers on any row. Such mixing, while inefficient, will be allowed to assure timely

movement of waste into the underground. No aisle space will be maintained for personnel access to emplaced waste containers. No roof maintenance behind stacks of waste is planned.

The anticipated schedule for the filling of each of the Underground HWDUs known as Panels 1 through 37 is shown in Permit Attachment I, Table I-1 as follows. The following assumptions are made in estimating the time to fill each HWMU:

- Throughput for CH waste is 784 drums per week (7 pallets per day, 4 days per week, 28 drums per pallet)
- The capacity of a panel is 81,000 drums

~~Under these assumptions, a minimum of 104 weeks is needed to emplace the waste. Allowing a 25 percent contingency for maintenance delays and time to transition from one room to another, it is estimated that a panel will be filled 2.5 years after emplacement is initiated. Panel closure in accordance with the Closure Plan in Permit Attachment I and Permit Attachment I1 is estimated to require an additional 150 days.~~

d.4 M2-5b(2)(a) Description of the Geomechanical Monitoring System

The minimum instrumentation for Panels 2 through 37 will be one borehole extensometer installed in the roof at the center of each disposal room. The roof extensometers will monitor the dilation of the immediate salt roof beam and possible bed separations along clay seams. Additional instrumentation will be installed as conditions warrant.

e.1 N-1a Background

The Underground HWDUs are located 2,150 feet (ft) (655 meters [m]) below ground surface, in the WIPP underground. As defined for this Permit, an Underground HWDU is a single excavated panel consisting of seven rooms and two access drifts designated for disposal of ~~contact-handled (CH)~~ transuranic (TRU) mixed waste. Each room is approximately 300 ft (91 m) long, 33 ft (10 m) wide, and 13 ft (4 m) high. Access drifts connect the rooms and have the same cross section. The Permittees shall dispose of TRU mixed waste in ~~three~~ Underground HWDUs designated as Panels 1, Panel 2 and Panel 3 through 7.

e.2 N-3a Sampling Locations

The initial configuration for the confirmatory VOC monitoring stations is shown in Figure N-1. All mine ventilation air which could potentially be impacted by VOC emissions from the Underground HWDUs identified as Panels 1 through 37 will pass monitoring Station VOC-A, located in the E-300 drift as it flows to the exhaust shaft. Air samples will be collected at two locations in the facility to quantify airborne VOC concentrations. VOC concentrations attributable to VOC emissions from open and closed panels containing CH TRU mixed waste will be measured by placing one VOC monitoring station just downstream from Panel 1 at VOC-A. The location of Station VOC-A will remain the same throughout the term of this Permit. The second station (Station VOC-B) will always be located upstream from the open panel being filled with waste (starting with Panel 1 at monitoring Station VOC-B (Figure N-1). In this configuration, Station VOC-B will measure

VOC concentrations attributable to releases from the upstream sources and other background sources of VOCs, but not releases attributable to open or closed panels. The location of Station VOC-B will change when disposal activities begin in the next Panel 2 and again when disposal activities begin in Panel 3, if necessary. Station VOC-B will be relocated to ensure that it is always upstream of the open panel that is receiving TRU mixed waste. Station VOC-A will also measure upstream VOC concentrations measured at Station VOC-B, plus any additional VOC concentrations resulting from releases from the closed and open panels. A sample will be collected from each monitoring station on designated sample days. For each quantified target VOC, the concentration measured at Station VOC-B will be subtracted from the concentration measured at Station VOC-A to assess the magnitude of VOC releases from closed and open panels.

f.1 Attachment O

Revised Part A Application is included in Attachment B

Attachment B

Revised Part A Permit Application, EPA Form 8700-23

ATTACHMENT O

HAZARDOUS WASTE PERMIT APPLICATION PART A

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ATTACHMENT O

HAZARDOUS WASTE PERMIT APPLICATION PART A

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NOTE: The "Part A - Hazardous Waste Permit Application" is the document submitted by the Permittees. It refers to management, storage, and disposal of remote-handled (RH) transuranic waste. This Permit does not authorize these activities and they have been included only to indicate what the Permittees submitted to NMED. However, maps, facility drawings, and photographs in Appendices O2, O3, and O4 which depicted RH waste activities have been edited or removed.

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For EPA Regional Use Only <div style="border: 1px solid black; padding: 2px;"> Date Received Month Day Year <div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"> </div> <div style="width: 20%;"> </div> <div style="width: 20%;"> </div> <div style="width: 20%;"> </div> <div style="width: 20%;"> </div> <div style="width: 20%;"> </div> </div> </div>	 United States Environmental Protection Agency Washington, DC 20460 Hazardous Waste Permit Application Part A <i>(Read the Instructions before starting)</i>	
I. Facility's EPA ID Number (Mark 'X' in the appropriate box)		
<input type="checkbox"/> A. First Part A Submission	<input checked="" type="checkbox"/> B. Revised Part A Submission (Amendment # 16)	
C. Facility's EPA ID Number N M 4 8 9 0 1 3 9 0 8 8		D. Secondary ID Number (If applicable) <div style="border: 1px solid black; height: 15px; width: 100%;"></div>
II. Name of Facility		
W A S T E I S O L A T I O N P I L O T P L A N T		
III. Facility Location (Physical address not P.O. Box or Route Number)		
A. Street 3 0 M I L E S E A S T O F C A R L S B A D O N		
Street (Continued) J A L H I G H W A Y		
City or Town C A R L S B A D		State N M
		Zip Code 8 8 2 2 1 -
County Code <small>(if known)</small> 0 3	County Name E D D Y	
B. Land Type <small>(Enter code)</small> F		C. Geographic Location <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> LATITUDE (Degrees, minutes, & seconds) 3 2 2 2 3 0 N </div> <div style="width: 45%;"> LONGITUDE (Degrees, minutes & seconds) 1 0 3 4 7 3 0 W </div> </div>
		D. Facility Existence Date <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> Month 0 5 </div> <div style="width: 30%;"> Day 1 8 </div> <div style="width: 30%;"> Year 1 9 8 1 </div> </div>
IV. Facility Mailing Address		
Street or P.O. Box P O B O X 3 0 9 0		
City or Town C A R L S B A D		State N M
		Zip Code 8 8 2 2 1 - 3 0 9 0
V. Facility Contact (Person to be contacted regarding waste activities at facility)		
Name (Last) T R I A Y		(First) I N È S
Job Title M A N A G E R		Phone Number (Area Code and Number) 5 0 5 - 2 3 4 - 7 3 0 0
VI. Facility Contact Address (See instructions)		
A. Contact Address Location Mailing Other <input checked="" type="checkbox"/> X <input type="checkbox"/>		B. Street or P.O. Box P O B O X 3 0 9 0
City or Town C A R L S B A D		State N M
		Zip Code 8 8 2 2 1 - 3 0 9 0

EPA Form 8700-23 (Rev. 10/99)

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XI. Nature of Business (Provide a brief description)																																																																																																																																													
<p>The Waste Isolation Pilot Plant (WIPP) is a U.S. Department of Energy facility intended to demonstrate the technical and operational principles involved in the permanent isolation and disposal of defense-generated transuranic waste. For purposes of RCRA, WIPP operations entail receiving, unloading, and transferring radioactive-mixed waste from the surface of the site to the underground hazardous waste management units. Waste will be emplaced in an underground geologic repository horizon located in a deep-bedded salt formation approximately 2,150 feet beneath the surface.</p>																																																																																																																																													
XII. Process Codes and Design Capacities																																																																																																																																													
<p>A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in item XIII.</p> <p>B. PROCESS DESIGN CAPACITY - For each code entered in column A, enter the capacity of the process.</p> <p>1. AMOUNT - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.</p> <p>2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.</p> <p>C. PROCESS TOTAL NUMBER OF UNITS - Enter the total number of units used with the corresponding process code.</p>																																																																																																																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PROCESS CODE</th> <th>PROCESS</th> <th>APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY</th> </tr> </thead> <tbody> <tr> <td colspan="3"><u>Disposal:</u></td> </tr> <tr> <td>D79</td> <td>Underground Injection</td> <td>Gallons; Liters; Gallons Per Day; or Liters Per Day</td> </tr> <tr> <td>D80</td> <td>Well Disposal Landfill</td> <td>Acre-feet; Hectare-meter; Acres; Cubic Meters; Hectares; Cubic Yards</td> </tr> <tr> <td>D81</td> <td>Land Treatment</td> <td>Acres or Hectares</td> </tr> <tr> <td>D82</td> <td>Ocean Disposal</td> <td>Gallons Per Day or Liters Per Day</td> </tr> <tr> <td>D83</td> <td>Surface Impoundment Disposal</td> <td>Gallons; Liters; Cubic Meters; or Cubic Yards</td> </tr> <tr> <td>D89</td> <td>Other Disposal</td> <td>Any Unit of Measure Listed Below</td> </tr> <tr> <td colspan="3"><u>Storage:</u></td> </tr> <tr> <td>S01</td> <td>Container</td> <td>Gallons; Liters; Cubic Meters; 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EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N M 4 8 9 0 1 3 9 0 8 8

XII. Process Codes and Design Capabilities (Continued)**EXAMPLE FOR COMPLETING ITEM XII (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.**

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	For Official Use Only
		1. Amount (Specify)	2. Unit Of Measure (Enter code)		
X 1	S 0 2	5 3 3 . 7 8 8	G	0 0 1	
1	X 0 4	175,600 Total (54,064 <u>126,000</u> in 10 years)	C	0 1 0	
2		See attached page for additional process information			
3	S 0 1	91.9	C	0 0 1	
4		WHB Container Storage Unit See attached page for additional process information			
5	S 0 1	47.1	C	0 0 1	
6		Parking Area Container Storage Unit See attached page for additional process information			
7					
8					
9					
1 0					
1 1					
1 2					
1 3					

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.**XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)**

Line Number (Enter the line segment with)	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	D. Description Of Process
		1. Amount (Specify)	2. Unit Of Measure (Enter code)		
X 1	T 0 4				In-situ Vitrification
1					
2					
3					
4					

2 XII. PROCESS—CODES AND DESIGN CAPACITIES (continued)

3 The Waste Isolation Pilot Plant (WIPP) geologic repository is defined as a "miscellaneous unit"
4 under 40 CFR §260.10. "Miscellaneous unit" means a hazardous waste management unit where
5 hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface
6 impoundment, waste pile, land treatment unit, landfill, incinerator, containment building, boiler,
7 industrial furnace, or underground injection well with appropriate technical standards under 40
8 CFR Part 146, corrective action management unit, or unit eligible for research, development, and
9 demonstration permit under 40 CFR §270.65. The WIPP is a geologic repository designed for the
10 disposal of defense-generated transuranic (TRU) waste. Some of the TRU wastes disposed of at
11 the WIPP contain hazardous wastes as co-contaminants. More than half the waste to be
12 disposed of at the WIPP also meets the definition of debris waste. The debris categories include
13 manufactured goods, biological materials, and naturally occurring geological materials.
14 Approximately 120,000 cubic meters (m³) of the 175,600 m³ of WIPP wastes is categorized as
15 debris waste. The geologic repository has been divided into ten discrete hazardous waste
16 management units (HWMU) which are being permitted under 40 CFR Part 264, Subpart X.

17 During the Disposal Phase of the facility, which is expected to last 25 years, the total amount of
18 waste received from off-site generators and any derived waste will be limited to 175,600 m³ of
19 TRU waste of which up to 7,080 m³ may be remote-handled (RH) TRU mixed waste. For
20 purposes of this application, all TRU waste is managed as though it were mixed.

21 On March 25, 1996, the DOE reached the conclusion that in order to comply with 40 CFR 191
22 §13 which regulates the long-term release of radionuclides from a geologic disposal facility, it is
23 necessary to add magnesium oxide to each disposal room. This additive is to be placed as a
24 backfill. The function of the backfill is to chemically alter the composition of brine that may
25 accumulate in the disposal region. The result of the chemical alteration is to significantly reduce
26 the solubility of the prevalent TRU radionuclides.

27 The process design capacity for the miscellaneous unit (composed of ten underground HWMUs
28 in the geologic repository) shown in Section XII B, is for the maximum amount of waste that may
29 be received from off-site generators plus the maximum expected amount of derived wastes that
30 may be generated at the WIPP facility. In addition, two HWMUs have been designated as
31 container storage units (S01) in Section XII. One is inside the Waste Handling Building (WHB)
32 and consists of the contact-handled (CH) bay, conveyance loading room, waste hoist entry room,
33 RH bay, cask unloading room, hot cell, transfer cell, and facility cask loading room. This HWMU
34 will be used for waste receipt, handling, and storage (including storage of derived waste) prior to
35 emplacement in the underground geologic repository. No treatment or disposal will occur in this
36 S01 HWMU. The capacity of this S01 unit for storage is 87.7 m³, based on 40 standard waste
37 boxes or seven-packs of drums on pallets and in the TRUDOCKs, one standard waste box of
38 derived waste, seven RH canisters in the transfer cell, and five RH canisters in the hot cell. The
39 second S01 HWMU is the parking area outside the WHB where the Contact Handled Package
40 trailers and the road cask trailers will be parked awaiting waste handling operations. The capacity
41 of this unit is 12 TRUPACT-IIs and three road casks or four rail casks with a combined volume of

1 47.1 m³. The railroad side tracks are included in this area to accommodate rail shipments of RH
2 TRU mixed waste. The HWMUs are shown in Appendix O3 as Figures O3-2, O3-3, and O3-4.

3 During the ten year period of the permit, up to ~~52,110~~126,000 m³ of CH waste and 1,954 m² of
4 RHTRU waste could be emplaced in Panels 1 to 37. A fourth HWMU (Panel 4), plus disposal
5 ~~area access drifts (designated as Panels 8, 9 and 10);~~ will be constructed under the initial term of
6 this permit. These latter areas will not receive waste for disposal under this permit.

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N M 4 8 9 0 1 3 9 0 8 8

XIV. Description of Hazardous Wastes

- A. EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- Enter the first two as described above.
- Enter "000" in the extreme right box of item XIV-D(1).
- Use additional sheet, enter line number from previous sheet, and enter additional code(s) in item XIV-E.

- 2. PROCESS DESCRIPTION:** If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESS							
				(1) PROCESS CODES (Enter)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))	
X 1	K 0 5 4	900	P	T	0	3	D	8	0		
X 2	D 0 0 2	400	P	T	0	3	D	8	0		
X 3	D 0 0 1	100	P	T	0	3	D	8	0		
X 4	D 0 0 2									Included With Above	

EPA ID Number (Enter from page 1)												Secondary ID Number (Enter from page 1)											
N	M	4	8	9	0	1	3	9	0	8	8												

XIV. Description of Hazardous Wastes (Continued; use additional sheets as necessary)

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES											
								(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in D(1))			
	1	F	0	0	1	1,891	M	X	0	4	S	0	1	S	0	1			
	2	F	0	0	2	1,860	M	X	0	4	S	0	1	S	0	1			
	3	F	0	0	3	1,593	M	X	0	4	S	0	1	S	0	1			
	4	F	0	0	4	26	M	X	0	4	S	0	1	S	0	1			
	5	F	0	0	5	1,829	M	X	0	4	S	0	1	S	0	1			
	6	F	0	0	6	915	M	X	0	4	S	0	1	S	0	1			
	7	F	0	0	7	915	M	X	0	4	S	0	1	S	0	1			
	8	F	0	0	9	915	M	X	0	4	S	0	1	S	0	1			
	9	D	0	0	4	903	M	X	0	4	S	0	1	S	0	1			
1	0	D	0	0	5	484	M	X	0	4	S	0	1	S	0	1			
1	1	D	0	0	6	1,819	M	X	0	4	S	0	1	S	0	1			
1	2	D	0	0	7	1,248	M	X	0	4	S	0	1	S	0	1			
1	3	D	0	0	8	3,246	M	X	0	4	S	0	1	S	0	1			
1	4	D	0	0	9	1,727	M	X	0	4	S	0	1	S	0	1			
1	5	D	0	1	0	186	M	X	0	4	S	0	1	S	0	1			
1	6	D	0	1	1	1,090	M	X	0	4	S	0	1	S	0	1			
1	7	D	0	1	8	749	M	X	0	4	S	0	1	S	0	1			
1	8	D	0	1	9	761	M	X	0	4	S	0	1	S	0	1			
1	9	D	0	2	1	26	M	X	0	4	S	0	1	S	0	1			
2	0	D	0	2	2	1,098	M	X	0	4	S	0	1	S	0	1			
2	1	D	0	2	6	609	M	X	0	4	S	0	1	S	0	1			
2	2	D	0	2	7	26	M	X	0	4	S	0	1	S	0	1			
2	3	D	0	2	8	449	M	X	0	4	S	0	1	S	0	1			
2	4	D	0	2	9	478	M	X	0	4	S	0	1	S	0	1			
2	5	D	0	3	0	26	M	X	0	4	S	0	1	S	0	1			
2	6	D	0	3	2	26	M	X	0	4	S	0	1	S	0	1			
2	7	D	0	3	4	26	M	X	0	4	S	0	1	S	0	1			
2	8	D	0	3	5	139	M	X	0	4	S	0	1	S	0	1			
2	9	D	0	3	6	26	M	X	0	4	S	0	1	S	0	1			
3	0	D	0	3	7	26	M	X	0	4	S	0	1	S	0	1			
3	1	D	0	3	8	26	M	X	0	4	S	0	1	S	0	1			
3	2	D	0	3	9	26	M	X	0	4	S	0	1	S	0	1			
3	3	D	0	4	0	140	M	X	0	4	S	0	1	S	0	1			
3	4	D	0	4	3	26	M	X	0	4	S	0	1	S	0	1			
3	5	P	0	1	5	945	M	X	0	4	S	0	1	S	0	1			

EPA ID Number (Enter from page 1)												Secondary ID Number (Enter from page 1)											
N	M	4	8	9	0	1	3	9	0	8	8												
XIV. Description of Hazardous Wastes (Continued; use additional sheets as necessary)																							
Line Number	A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES																
							(1) PROCESS CODES (Enter code)												(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
	1	U	0	0	2	344	M	X	0	4	S	0	1	S	0	1							
	2	U	0	1	9	344	M	X	0	4	S	0	1	S	0	1							
	3	U	0	3	7	344	M	X	0	4	S	0	1	S	0	1							
	4	U	0	4	3	344	M	X	0	4	S	0	1	S	0	1							
	5	U	0	4	4	344	M	X	0	4	S	0	1	S	0	1							
	6	U	0	5	2	344	M	X	0	4	S	0	1	S	0	1							
	7	U	0	7	0	344	M	X	0	4	S	0	1	S	0	1							
	8	U	0	7	2	344	M	X	0	4	S	0	1	S	0	1							
	9	U	0	7	8	344	M	X	0	4	S	0	1	S	0	1							
1	0	U	0	7	9	344	M	X	0	4	S	0	1	S	0	1							
1	1	U	1	0	5	344	M	X	0	4	S	0	1	S	0	1							
1	2	U	1	2	2	344	M	X	0	4	S	0	1	S	0	1							
1	3	U	1	3	3	344	M	X	0	4	S	0	1	S	0	1							
1	4	U	1	5	1	344	M	X	0	4	S	0	1	S	0	1							
1	5	U	1	5	4	344	M	X	0	4	S	0	1	S	0	1							
1	6	U	1	5	9	344	M	X	0	4	S	0	1	S	0	1							
1	7	U	1	9	6	344	M	X	0	4	S	0	1	S	0	1							
1	8	U	2	0	9	344	M	X	0	4	S	0	1	S	0	1							
1	9	U	2	1	0	344	M	X	0	4	S	0	1	S	0	1							
2	0	U	2	2	0	344	M	X	0	4	S	0	1	S	0	1							
2	1	U	2	2	6	344	M	X	0	4	S	0	1	S	0	1							
2	2	U	2	2	8	344	M	X	0	4	S	0	1	S	0	1							
2	3	U	2	3	9	344	M	X	0	4	S	0	1	S	0	1							
2	4	P	1	2	0	3.3	M	X	0	4	S	0	1	S	0	1							
2	5	U	1	3	4	344	M	X	0	4	S	0	1	S	0	1							
2	6	D	0	3	3	344	M	X	0	4	S	0	1	S	0	1							
2	7	P	0	3	0	344	M	X	0	4	S	0	1	S	0	1							
2	8	P	0	9	8	344	M	X	0	4	S	0	1	S	0	1							
2	9	P	0	9	9	344	M	X	0	4	S	0	1	S	0	1							
3	0	P	1	0	6	344	M	X	0	4	S	0	1	S	0	1							
3	1	U	0	0	3	344	M	X	0	4	S	0	1	S	0	1							
3	2	U	1	0	3	344	M	X	0	4	S	0	1	S	0	1							
3	3	U	1	0	8	344	M	X	0	4	S	0	1	S	0	1							
3	4																						
3	5																						

EPA ID Number (Enter from page 1)												Secondary ID Number (Enter from page 1)											
N	M	4	8	9	0	1	3	9	0	8	8												

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (See instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature	Date Signed
Name and Official Title (Type or print) Inès R. Triay, Manager, DOE/Carlsbad Field Office	
Owner Signature	Date Signed
Name and Official Title (Type or print)	
Operator Signature	Date Signed
Name and Official Title (Type or print) Inès R. Triay, Manager, DOE/Carlsbad Field Office	
Operator Signature	Date Signed
Name and Official Title (Type or print) S. D. Warren, President - Washington TRU Solutions, LLC	

XIX. Comments

Section XVIII Operator Signature - *See attached "RCRA Part A Application Certification"

- Previous revisions were submitted on July 9, 1991; November 12, 1992; January 29, 1993; March 2, 1995; May 26, 1995; April 12, 1996; May 29, 1996; April 21, 1999; May 10, 1999; February 2, 2001; March 7, 2001; June 18, 2001; December 27, 2002; and January 16, 2003; and May XX, 2003.
- Part A originally signed on January 18, 1991, and submitted on January 22, 1991.

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

NM4890139088

RCRA PART A APPLICATION CERTIFICATION

The U.S. Department of Energy (DOE), through its Carlsbad Field Office, has signed as "owner and operator," and Washington TRU Solutions LLC, the Management and Operating Contractor (MOC), has signed this application for the permitted facility as "co-operator."

The DOE has determined that dual signatures best reflect the actual apportionment of Resource Conservation and Recovery Act (RCRA) responsibilities as follows:

The DOE's RCRA responsibilities are for policy, programmatic directives, funding and scheduling decisions, Waste Isolation Pilot Plant (WIPP) requirements of DOE generator sites, auditing, and oversight of all other parties engaged in work at the WIPP, as well as general oversight.

The MOC's RCRA responsibilities are for certain day-to-day operations (in accordance with general directions given by the DOE and in the Management and Operating Contract as part of its general oversight responsibility), including, but not limited to, the following: certain waste handling, monitoring, record keeping, certain data collection, reporting, technical advice, and contingency planning.

For purposes of the certification required by Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1 (20.4.1 NMAC), Subpart IX, §270.11(d), the DOE's and the MOC's representatives certify, under penalty of law that this document and all attachments were prepared under their direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on their inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of their knowledge and belief, true, accurate, and complete for their respective areas of responsibility. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner and Operator Signature:

Title: Manager, Carlsbad Field Office
for: U.S. Department of Energy
Date: 1/13/03

Co-Operator Signature:

Title: President
for: Washington TRU Solutions LLC
Date: 1/16/03

APPENDIX 01
OTHER ENVIRONMENTAL PERMITS

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**ACTIVE ENVIRONMENTAL PERMITS AND APPROVALS FOR THE WASTE ISOLATION PILOT PLANT
AS OF APRIL 1, 2003**

	Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration	Current Permit Status
1.	Department of the Interior, Bureau of Land Management	Right-of-Way for Water Pipeline	NM53809	08/17/83	In Perpetuity	Active
2.	Department of the Interior, Bureau of Land Management	Right-of-Way for the North Access Road	NM55676	08/24/83	None	Active
3.	Department of the Interior, Bureau of Land Management	Right-of-Way for Railroad	NM55699	09/27/83	None	Active
4.	Department of the Interior, Bureau of Land Management	Right-of-Way for Dosimetry and Aerosol Sampling Sites	NM63136	07/31/86	07/31/11	Active
5.	Department of the Interior, Bureau of Land Management	Right-of-Way for Seven Subsidence Monuments	NM65801	11/07/86	None	Active
6.	Department of the Interior, Bureau of Land Management	Right-of-Way for Aerosol Sampling Site	NM77921	08/18/89	08/18/19	Active
7.	Department of the Interior, Bureau of Land Management	Right-of-Way for 2 Survey Monuments	NM82245	12/13/89	12/13/19	Active
8.	Department of the Interior, Bureau of Land Management	Right-of-Way for telephone cable	NM46029	07/03/90	09/04/11	Active
9.	Department of the Interior, Bureau of Land Management	Right-of-Way for SPS Powerline	NM43203	02/20/96	10/19/11	Active
10.	Department of the Interior, Bureau of Land Management	Right-of-Way for South Access Road	NM46130	09/26/94	08/17/31	Active
11.	Department of the Interior, Bureau of Land Management	Right-of-Way for Duval telephone line	NM60174	11/06/96	03/08/15	Active
12.	Department of the Interior, Bureau of Land Management	Right-of-Way for Wells AEC-7 & AEC-8	NM108365	08/30/02	08/30/32	Active
13.	Department of the Interior, Bureau of Land Management	Right-of-Way for ERDA-6	NM108365	08/30/02	08/30/32	Active
14.	Department of the Interior, Bureau of Land Management	Right-of-Way for Well C-2756 (P-18)	NM108365	08/30/02	08/30/32	Active
15.	Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Well C-2664 (Cabin Baby)	NM107944	04/23/02	04/23/32	Active

	Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration	Current Permit Status
16.	Department of the Interior, Bureau of Land Management	Right-of-Way for Seismic Monitoring Station	NM85426	09/23/91	None	Active
17.	Department of the Interior, Bureau of Land Management	Right-of-Way for Wells C-2725 (H-4A), C-2775 (H-4B), & C- 2776 (H-4C)	NM108365	08/30/02	08/30/32	Active
18.	Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Wells C-2723 (WIPP-25), C- 2724 (WIPP-26), C-2722 (WIPP-27), C-2636 (WIPP- 28), C-2743 (WIPP-29), & C- 2727 (WIPP-30)	NM108365	08/30/02	08/30/32	Active
19.	Department of the Interior, Bureau of Land Management	Right-of-Way for Aerosol Sampling Sites	NM77921	10/03/89	08/18/19	Active
20.	Department of the Interior, Bureau of Land Management	Right-of-Way easement for accessing state trust lands in Eddy & Lea Counties	NM25430	02/29/00	09/28/04	Active
21.	U.S. Department of the Interior, Fish and Wildlife Service	Concurrence that WIPP construction activities will have no significant impact on federally-listed threatened or endangered species	None	05/29/80	None	Active
22.	U.S. Department of the Interior, Fish and Wildlife Service	Master Personal Banding	#22478	05/19/93	Auto. Renewed every 3 years	Active
23.	New Mexico Commissioner of Public Lands	Right-of-Way for High Volume Air Sampler	RW-22789	10/03/85	10/03/20	Active
24.	New Mexico Environment Department Groundwater Bureau	Discharge Permit	DP-831	07/03/97	07/03/02 (Comments on Draft Renewal submitted April 10, 2003)	Active
25.	New Mexico Environment Department Air Quality Bureau	Operating Permit for two backup diesel generators	310-M-2	12/07/93	None	Active
26.	New Mexico Department of Game and Fish	Concurrence that WIPP construction activities will have no significant impact on state- listed threatened or endangered	None 07/25/83	05/26/89	None	Active

	Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration	Current Permit Status
		species				
27.	New Mexico Environment Department-UST Bureau	Underground Storage Tanks	NMED11811 (Number changes annually)	07/01/02	06/30/03 (2003 registration submitted 6/18/02)	Active
28.	New Mexico State Engineer Office	Monitoring Well Exhaust Shaft Exploratory Borehole	C-2801,	02/23/01	None	Active
29.	New Mexico State Engineer Office	Monitoring Well Exhaust Shaft Exploratory Borehole	C-2802	02/23/01	None	Active
30.	New Mexico State Engineer Office	Monitoring Well Exhaust Shaft Exploratory Borehole	C-2803	02/23/01	None	Active
31.	New Mexico State Engineer Office	Monitoring Well	C-2811	03/02/02	None	Active
32.	New Mexico State Engineer Office	Appropriation: WQSP-1 Well	C-2413	10/21/96	None	Active
33.	New Mexico State Engineer Office	Appropriation: WQSP-2 Well	C-2414	10/21/96	None	Active
34.	New Mexico State Engineer Office	Appropriation: WQSP-3 Well	C-2415	10/21/96	None	Active
35.	New Mexico State Engineer Office	Appropriation: WQSP-4 Well	C-2416	10/21/96	None	Active
36.	New Mexico State Engineer Office	Appropriation: WQSP-5 Well	C-2417	10/21/96	None	Active
37.	New Mexico State Engineer Office	Appropriation: WQSP-6 Well	C-2418	10/21/96	None	Active
38.	New Mexico State Engineer Office	Appropriation: WQSP-6a Well	C-2419	10/21/96	None	Active
39.	New Mexico State Engineer Office	Monitoring Well AEC-7	C-2742	11/06/00	None	Active
40.	New Mexico State Engineer Office	Monitoring Well AEC-8	C-2744	11/06/00	None	Active
41.	New Mexico State Engineer Office	Monitoring Well Cabin Baby	C-2664	07/30/99	None	Active
42.	New Mexico State Engineer Office	Monitoring Well D-268 Plugged to 220'. Livestock watering.	C-2638	01/12/99	None	Active

	Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration	Current Permit Status
43.	New Mexico State Engineer Office	Monitoring Well DOE-1	C-2757	11/06/00	None	Active
44.	New Mexico State Engineer Office	Monitoring Well DOE-2	C-2682	04/17/00	None	Active
45.	New Mexico State Engineer Office	Monitoring Well ERDA-9	C-2752	11/06/00	None	Active
46.	New Mexico State Engineer Office	Monitoring Well H-1	C-2765	11/06/00	None	P&A
47.	New Mexico State Engineer Office	Monitoring Well H-2A	C-2762	11/06/00	None	Active
48.	New Mexico State Engineer Office	Monitoring Well H-2B1	C-2758	11/06/00	None	Active
49.	New Mexico State Engineer Office	Monitoring Well H-2B2	C-2763	11/06/00	None	Active
50.	New Mexico State Engineer Office	Monitoring Well H-2C	C-2759	11/06/00	None	Active
51.	New Mexico State Engineer Office	Monitoring Well H-3B1	C-2764	11/06/00	None	Active
52.	New Mexico State Engineer Office	Monitoring Well H-3B2	C-2760	11/06/00	None	Active
53.	New Mexico State Engineer Office	Monitoring Well H-3B3	C-2761	11/06/00	None	Active
54.	New Mexico State Engineer Office	Monitoring Well H-3D	pending	11/06/00	None	Active
55.	New Mexico State Engineer Office	Monitoring Well H-4A	C-2725	11/06/00	None	P&A
56.	New Mexico State Engineer Office	Monitoring Well H-4B	C-2775	11/06/00	None	Active
57.	New Mexico State Engineer Office	Monitoring Well H-4C	C-2776	11/06/00	None	Active
58.	New Mexico State Engineer Office	Monitoring Well H-5A	C-2746	11/06/00	None	Active
59.	New Mexico State Engineer Office	Monitoring Well H-5B	C-2745	11/06/00	None	Active
60.	New Mexico State Engineer Office	Monitoring Well H-5C	C-2747	11/06/00	None	Active
61.	New Mexico State Engineer	Monitoring Well	C-2751	11/06/00	None	Active

	Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration	Current Permit Status
	Office	H-6A				
62.	New Mexico State Engineer Office	Monitoring Well H-6B	C-2749	11/06/00	None	Active
63.	New Mexico State Engineer Office	Monitoring Well H-6C	C-2750	11/06/00	None	Active
64.	New Mexico State Engineer Office	Monitoring Well H-7A	C-2694	04/17/00	None	P&A
65.	New Mexico State Engineer Office	Monitoring Well H-7B1	C-2770	11/06/00	None	Active
66.	New Mexico State Engineer Office	Monitoring Well H-7B2	C-2771	11/06/00	None	Active
67.	New Mexico State Engineer Office	Monitoring Well H-7C	C-2772	11/06/00	None	Active
68.	New Mexico State Engineer Office	Monitoring Well H-8A	C-2780	11/06/00	None	Active
69.	New Mexico State Engineer Office	Monitoring Well H-8B	C-2781	11/06/00	None	Active
70.	New Mexico State Engineer Office	Monitoring Well H-8C	C-2782	11/06/00	None	Active
71.	New Mexico State Engineer Office	Monitoring Well H-9A	C-2785	11/06/00	None	P&A
72.	New Mexico State Engineer Office	Monitoring Well H-9B	C-2783	11/06/00	None	Active
73.	New Mexico State Engineer Office	Monitoring Well H-9C	C-2784	11/06/00	None	Active
74.	New Mexico State Engineer Office	Monitoring Well H-10A	C-2779	11/06/00	None	Active
75.	New Mexico State Engineer Office	Monitoring Well H-10B	C-2778	11/06/00	None	P&A
76.	New Mexico State Engineer Office	Monitoring Well H-10C	C-2695	04/17/00	None	Active
77.	New Mexico State Engineer Office	Monitoring Well H-11B1	C-2767	11/06/00	None	Active
78.	New Mexico State Engineer Office	Monitoring Well H-11B2	C-2687	04/17/00	None	Active
79.	New Mexico State Engineer Office	Monitoring Well H-11B3	C-2768	11/06/00	None	Active

	Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration	Current Permit Status
80.	New Mexico State Engineer Office	Monitoring Well H-11B4	C-2769	11/06/00	None	Active
81.	New Mexico State Engineer Office	Monitoring Well H-12	C-2777	11/06/00	None	Active
82.	New Mexico State Engineer Office	Monitoring Well H-14	C-2766	11/06/00	None	Active
83.	New Mexico State Engineer Office	Monitoring Well H-15	C-2685	04/17/00	None	Active
84.	New Mexico State Engineer Office	Monitoring Well H-16	C-2753	11/06/00	None	Active
85.	New Mexico State Engineer Office	Monitoring Well H-17	C-2773	11/06/00	None	Active
86.	New Mexico State Engineer Office	Monitoring Well H-18	C-2683	04/17/00	None	Active
87.	New Mexico State Engineer Office	Monitoring Well H-19B0	C-2420	01/25/95	01/31/98	Inactive Renew when necessary
88.	New Mexico State Engineer Office	Monitoring Well H-19B1	C-2420	01/25/95	01/31/98	Inactive Renew when necessary
89.	New Mexico State Engineer Office	Monitoring Well H-19B2	C-2421	01/25/95	01/31/98	Inactive Renew when necessary
90.	New Mexico State Engineer Office	Monitoring Well H-19B3	C-2422	01/25/95	01/31/98	Inactive Renew when necessary
91.	New Mexico State Engineer Office	Monitoring Well H-19B4	C-2423	01/25/95	01/31/98	Inactive Renew when necessary
92.	New Mexico State Engineer Office	Monitoring Well H-19B5	C-2424	01/25/95	01/31/98	Inactive Renew when necessary
93.	New Mexico State Engineer Office	Monitoring Well H-19B6	C-2425	01/25/95	01/31/98	Inactive Renew when necessary
94.	New Mexico State Engineer Office	Monitoring Well H-19B7	C-2426	01/25/95	01/31/98	Inactive Renew when necessary
95.	New Mexico State Engineer Office	Monitoring Well P-14	C-2637	01/02/99	None	P&A

	Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration	Current Permit Status
96.	New Mexico State Engineer Office	Monitoring Well P-15	C-2686	04/17/00	None	P&A
97.	New Mexico State Engineer Office	Monitoring Well P-17	C-2774	11/06/00	None	Active
98.	New Mexico State Engineer Office	Monitoring Well P-18	C-2756	11/06/00	None	P&A
99.	New Mexico State Engineer Office	Monitoring Well WIPP-12	C-2639	01/12/99	None	Active
100.	New Mexico State Engineer Office	Monitoring Well WIPP-13	C-2748	11/06/00	None	Active
101.	New Mexico State Engineer Office	Monitoring Well WIPP-18	C-2684	04/17/00	None	Active
102.	New Mexico State Engineer Office	Monitoring Well WIPP-19	C-2755	11/06/00	None	Active
103.	New Mexico State Engineer Office	Monitoring Well WIPP-21	C-2754	11/06/00	None	Active
104.	New Mexico State Engineer Office	Monitoring Well WIPP-25	C-2723	07/26/00	None	Active
105.	New Mexico State Engineer Office	Monitoring Well WIPP-26	C-2724	11/06/00	None	Active
106.	New Mexico State Engineer Office	Monitoring Well WIPP-27	C-2722	11/06/00	None	Active
107.	New Mexico State Engineer Office	Monitoring Well WIPP-28	C-2636	01/12/99	None	P&A
108.	New Mexico State Engineer Office	Monitoring Well WIPP-29	C-2743	11/06/00	None	Active
109.	New Mexico State Engineer Office	Monitoring Well WIPP-30	C-2727	08/04/00	None	Active

P&A – Plugged and Abandoned

Attachment C

EM-1 Baseline Shipping Schedule, Revision 2, 3/24/03

EM-1 Baseline Shipping Schedule, Revision 2, 3/24/03

Changes between Revision 1 and Revision 2 are shown in light green

COMPARISON OF TRU WASTE SHIPMENTS PER MONTH FROM OCT 02 THROUGH SEPT 04 (REV1 TO REV2)																																							
MOBILE				BCL				MURR				LLNL																											
R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2				
36	36	2	2	0	0	51	51	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23				
27	27	13	13	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11			
30	30	12	12	1	1	0	0	2	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11			
41	41	12	12	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14			
40	34	16	15	2	0	0	0	5	1	1	1	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13			
40	40	17	17	2	2	2	2	9	2	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16			
32	44	17	17	1	1	9	9	9	9	4	8	4	4	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21			
28	41	17	17	2	2	9	9	12	4	8	8	4	4	12	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7			
30	43	12	16	0	2	9	9	12	5	8	8	2	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20			
32	32	12	20	0	0	9	9	12	8	8	8	2	5	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22			
28	28	12	20	0	0	17	0	12	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17			
28	28	12	24	0	0	17	0	12	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18			
34	34	12	24	0	0	17	0	13	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22			
26	26	12	24	0	0	33	17	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24			
26	26	12	24	0	0	33	17	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24			
30	30	12	24	0	0	33	17	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25			
28	28	12	24	0	0	40	33	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29			
28	28	12	24	0	0	40	33	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29			
32	32	12	24	0	0	40	33	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30			
28	28	12	24	0	0	40	40	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31			
30	30	12	24	0	0	40	40	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32			
28	28	12	24	0	0	40	40	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31			
28	28	12	24	0	0	40	40	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31			
28	28	12	24	0	0	40	40	14	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31		
738	770	298	473	8	8	559	439	257	183	147	147	21	21	14	14	1	1	23	23	1	1	60	60	18	54	2163	31												

1. Oct-02, Nov-02, Dec 02, Jan 03, and Feb 03 data are actuals under Rev 1 & Rev 2 columns
2. Represent intersite shipments (Mound to SRS, BCL & ETEC to RL, and MURR to ANL-E; and LLNL to LLNL). LLNL requires a defense determination.
3. Mar-Jul 03 for INEEL is pre-certified TRU from previous contractor.

Notes: Assumes adequate FY 03 funding for mobile systems at LANL, RL, ANL-E, LLNL, and NTS. (CBFO funding @ \$210M)
 The Total Ship, Weekly Ship, and TRUPACT columns do not include intersite (ETEC, BCL, LLBL, MURR, & Mound) shipments because they are not going directly to WIPP.

Changes are in green

Revision 1 is designated "R1" in column headings
 Revision 2 is designated "R2" in column headings

Attachment D

Mining/Waste Emplacement Schedule Summary, April 2003 Update

Mining and Waste Emplacement Summary Schedule, As of April 2003

	Mining & Outfitting		TRU Waste Disposal		Disposal Notes:
	Start	End	Start	End	
Panel 1			3/26/1999	3/12/2003	*CH Start & End dates
Panel 2			3/13/2003	10/25/2004	*CH Start & End dates
Panel 3	1/31/2003	3/29/2004	10/26/2004	1/9/2006	*CH Start & End date, RH begin in RM4
Panel 4	6/29/2004	7/20/2005	11/26/2005	4/21/2007	*RH Start & CH End dates
Panel 5	7/21/2005	8/10/2006	3/5/2007	8/15/2008	*RH Start & CH End dates
Panel 6	8/11/2006	1/6/2008	6/30/2008	12/26/2009	*RH Start & CH End dates
Panel 7	1/7/2008	6/4/2009	9/18/2009	9/30/2015	*RH Start & CH End dates
Panel 8	6/5/2009	11/1/2010	1/13/2011	6/17/2016	*RH Start & End dates

Note:

- 1) Mining and Emplacement dates based on the following CH and RH waste forecasts:
 - a) CH: Oct02-Sep04 -Baseline Shippments Rev. 2(Mar03)
 - b) CH: Oct04 to end - Performance Management Plan (PMP) Aug 2002
 - d) RH: Start through End - Performance Management Plan (PMP) Aug 2002
- 2) Forecast RH start date March 7, 2005.
- 3) Mining schedule based on Jul03 approval of funding to support the accelerated schedule.
- 4) Outfitting of each Panel requires 2 months following completion of mining.

CH Waste Fill Schedule

April 2003 update
start

PANEL 1	7d/wk	
Room 7	26-Mar-99	15-Aug-01
Room 6	24-Aug-01	11-Nov-01
Room 5	12-Nov-01	18-Jan-02
Room 4	18-Jan-02	26-Feb-02
Room 3	27-Feb-02	18-Jul-02
Room 2	19-Jul-02	22-Nov-02
Room 1	23-Nov-02	12-Mar-03
P2 RM7	13-Mar-03	08-Jul-03
P2 RM6	09-Jul-03	29-Oct-03
P2 RM6	30-Oct-03	30-Jan-04
P2 RM4	31-Jan-04	16-Apr-04
P2 RM3	17-Apr-04	27-Jun-04
P2 RM2	28-Jun-04	09-Sep-04
P2 RM1	10-Sep-04	25-Oct-04
P3 RM7	26-Oct-04	30-Dec-04
P3 RM6	31-Dec-04	04-Mar-05
P3 RM5	05-Mar-05	08-May-05
P3 RM4	09-May-05	13-Jul-05
P3 RM3	14-Jul-05	18-Sep-05
P3 RM2	19-Sep-05	24-Nov-05
P3 RM1	25-Nov-05	09-Jan-06
P4 RM7	10-Jan-06	16-Mar-06
P4 RM6	17-Mar-06	24-May-06
P4 RM5	25-May-06	31-Jul-06
P4 RM4	01-Aug-06	08-Oct-06
P4 RM3	09-Oct-06	21-Dec-06
P4 RM2	22-Dec-06	03-Mar-07
P4 RM1	04-Mar-07	21-Apr-07
P5 RM7	22-Apr-07	03-Jul-07
P5 RM6	04-Jul-07	15-Sep-07
P5 RM5	16-Sep-07	26-Nov-07
P5 RM4	27-Nov-07	06-Feb-08
P5 RM3	07-Feb-08	17-Apr-08
P5 RM2	18-Apr-08	28-Jun-08
P5 RM1	29-Jun-08	15-Aug-08
P6 RM7	16-Aug-08	26-Oct-08
P6 RM6	27-Oct-08	12-Jan-09
P6 RM5	13-Jan-09	14-Mar-09
P6 RM4	15-Mar-09	24-May-09
P6 RM3	25-May-09	03-Aug-09
P6 RM2	04-Aug-09	19-Oct-09
P6 RM1	20-Oct-09	26-Dec-09
P7 RM7	27-Dec-09	04-Apr-10
P7 RM6	05-Apr-10	14-Jul-10
P7 RM5	15-Jul-10	21-Nov-10
P7 RM4	22-Nov-10	23-Jun-11
P7 RM3	24-Jun-11	23-Feb-12
P7 RM2	24-Feb-12	06-Oct-13
P7 RM1	07-Oct-13	30-Sep-15
P8 RM7		
P8 RM6		
P8 RM5		
P8 RM4		
P8 RM3		
P8 RM2		
P8 RM1		
PANEL 9		
PANEL 10		

RH WASTE PLACEMENT March 7, 2005 start

4 Room CH Fill of Panel 1

April 2003 update

	start	full/move	
P2 RM7			
P2 RM6			
P2 RM5			
P2 RM4			
P2 RM3			
P2 RM2			
P2 RM1			
P3 RM4	05-Mar-05	09-May-05	RH start
P3 RM3	10-May-05	14-Jul-05	
P3 RM2	15-Jul-05	19-Sep-05	
P3 RM1	20-Sep-05	25-Nov-05	
P4 RM7	26-Nov-05	10-Jan-06	
P4 RM6	11-Jan-06	17-Mar-06	
P4 RM5	18-Mar-06	25-May-06	
P4 RM4	26-May-06	01-Aug-06	
P4 RM3	02-Aug-06	09-Oct-06	
P4 RM2	10-Oct-06	22-Dec-06	
P4 RM1	23-Dec-06	04-Mar-07	
P5 RM7	05-Mar-07	22-Apr-07	
P5 RM6	23-Apr-07	04-Jul-07	
P5 RM5	05-Jul-07	16-Sep-07	
P5 RM4	17-Sep-07	27-Nov-07	
P5 RM3	28-Nov-07	07-Feb-08	
P5 RM2	08-Feb-08	18-Apr-08	
P5 RM1	19-Apr-08	29-Jun-08	
P6 RM7	30-Jun-08	16-Aug-08	
P6 RM6	17-Aug-08	27-Oct-08	
P6 RM5	28-Oct-08	13-Jan-09	
P6 RM4	14-Jan-09	24-Feb-09	
P6 RM3	25-Feb-09	10-May-09	
P6 RM2	11-May-09	25-Jul-09	
P6 RM1	26-Jul-09	17-Sep-09	
P7 RM7	18-Sep-09	05-Dec-09	
P7 RM6	06-Dec-09	12-Feb-10	
P7 RM5	13-Feb-10	20-Apr-10	
P7 RM4	21-Apr-10	28-Jun-10	
P7 RM3	29-Jun-10	06-Sep-10	
P7 RM2	07-Sep-10	18-Nov-10	
P7 RM1	19-Nov-10	12-Jan-11	
P8 RM7	13-Jan-11	02-Apr-11	
P8 RM6	03-Apr-11	16-Jun-11	
P8 RM5	17-Jun-11	30-Aug-11	
P8 RM4	31-Aug-11	11-Jul-12	
P8 RM3	12-Jul-12	23-Jan-14	
P8 RM2	24-Jan-14	03-Jul-15	
P8 RM1	04-Jul-15	17-Jun-16	

Mining Activities

April 2003 update	Start Date	End Date
North End (E-0 only)	—	09/30/03
South Mains to S-331	N/C	01/30/03
South Mains to S-365	03/30/04	06/28/04
Panel 3	01/31/03	03/29/04
Panel 4	06/29/04	07/20/05
Panel 5	07/21/05	08/10/06
Panel 6	08/11/06	01/06/08
Panel 7	01/07/08	06/04/09
Panel 8	06/05/09	11/01/10
Panel 9	no change relative to waste fill date	
Panel 10	no change relative to waste fill date	

Waste Forecasts used for this summary schedule

1) Panel Required Dates based on the following CH and RH waste forecasts:

a) CH: Oct02-Sep04 - BSS Rev. 2 (Mar03) w/ TRUPACTs/shippment from ShippingSched92502

b) CH: Oct04 to end - PMP Aug 2002

c) RH: Start through End - PMP Aug 2002

2) Forecast RH start date March 7, 2005, PMP Aug 2002

3) North End muck removed from E-0 from N-1100 to N-1400

Attachment E

Panel Mining and Waste Emplacement Timeline

